Guidelines for Working with Students Who Are Deaf and Hard of Hearing in Virginia Public Schools

The Virginia Department of Education
Department of Special Education and Student Services
with The Partnership for People with Disabilities
Virginia Commonwealth University

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This document can be found at the Virginia Department of Education (VDOE) website. Type the title in the "Search" box.

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ACKNOWLEDGMENTS

2019 Guidelines Update

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KEY TO ACRONYMS USED IN THIS DOCUMENT

ASL	American Sign Language
CART	Communication access real-time translation
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
DARS	Department of Aging and Rehabilitative Services
DCMP	Described and Captioned Media Program
DHH	Deaf and Hard of Hearing
EHDI	Early Hearing Detection and Intervention
EI	Early Intervention
FM	Frequency modulation
IDEA	Individuals with Disabilities Education Improvement Act of 2004
IEP	Individualized Educational Program
IFSP	Individualized Family Services Plan
LRE	Least Restrictive Environment
LSL	Listening and Spoken Language
NASDSE	National Association of State Directors of Special Education, Inc.
NDC	National Deaf Center
SOL	Standards of Learning
TODHH	Teacher(s) of Students Who are Deaf and Hard of Hearing
TTAC	Training and Technical Assistance Center(s)
TTY	Text Telephone
VA EHDI	Virginia Early Hearing Detection and Intervention Program
VAC	Virginia Administrative Code
VDDHH	Virginia Department for the Deaf and Hard of Hearing
VDOE	Virginia Department of Education
VNOC	Virginia Network of Consultants for Professionals Working with Students Who are Deaf and Hard of Hearing
VSDB	Virginia School for the Deaf and the Blind

INTRODUCTION

The purpose of these guidelines is to provide resources and suggestions to enhance the provision of services to students who are deaf and hard of hearing in order to support their educational goals. These guidelines are written for special and general education administrators, teachers of students who are deaf and hard of hearing (referred to by Virginia teacher licensure regulations as HI teachers and generally referred to as teachers of the deaf and hard of hearing-TODHH), general educators, parents, speech and language pathologists, interpreters, and any individual interested in serving the academic or functional needs of students who are deaf and hard of hearing. Also, the terms students and children are used interchangeably. These guidelines were published in 2008, revised in 2012 and are modified and updated as needed at the Virginia Department of Education (VDOE) website.

Law and Regulations

Although not a substitute for special education law and regulations, these guidelines offer regulatory information to school divisions in order for them to meet their obligations under state and federal law and regulations, and local school board policy.

In 1975, the passage of the Education of All Handicapped Children Act, or PL 94-142, established requirements for school divisions in the education of children with disabilities, including those who are deaf and hard of hearing. More recently, the special education statute, Individuals with Disabilities Education Act of 1997, was reauthorized by Congress as the *Individuals with Disabilities Education Improvement Act of 2004*, 20 U.S.C. §§ 1400 *et seq*. ("IDEA 2004"), effective December 3, 2004. Subsequently, the U.S. Department of Education issued the federal implementing regulations for Part B of the IDEA 2004, at 34 C.F.R. Part 300.100 *et seq.*, effective October 13, 2006. Supplemental Part B regulations were published on December 1, 2008, and became effective on December 31, 2008. This reauthorization of IDEA 2004 and its implementing federal regulations prompted the need to revise the *Virginia Regulations Governing Special Education Programs for Children* ("Virginia Regulations"), effective on July 7, 2009, and reissued on January 25, 2010, and on July 29, 2015, at 8 VAC 20-81-10 *et seq.* The 2009 Virginia Regulations are available online at the VDOE website.

Terminology

Some federal and state regulatory language differs from the terminology commonly used in the field of deafness. Under IDEA the term "deafness" is defined as "a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification, that adversely affects the child's educational performance."(34 CFR 300.8(c)(3)) The term "hearing impairment" is defined as "an impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance but that is not included under the definition of deafness in this section." (34 CFR 300.8(c)(5))

In 2019, the Virginia General Assembly passed legislation, which replaced the terms "hearing impaired and its variations" with "deaf or hard of hearing" and" hearing loss" throughout the *Code of Virginia*. For the purposes of this document, the term "deafness" is used to convey the same meaning as that used in the federal and state regulations. The terms "deaf and hard of hearing" and "hearing loss" are used in lieu of "hearing impairment," with the exception of references to a student's disability category as it is currently defined under IDEA and the Virginia Regulations.

Demographics

In 2014, the Centers for Disease Control and Prevention (CDC) reported that over 97 percent of newborns in the United States were screened for hearing loss. About 2 to 3 out of every 1,000 children in the U.S. are born with a detectable level of hearing loss in one or both ears. More than 90 percent of deaf children are born to hearing parents (CDC, 2014).

In 2018, according to the VDOE Virginia Special Education Child Count data, there were 2,202 students, ages 2 through 22, who received special education services that were reported under the category of hearing impairment or deafness as a primary, secondary or tertiary disability. Additionally, 29 students were reported under the category of deaf-blindness. Approximately 83 percent of the students in Virginia, ages 6 through 22, who were reported under the category of hearing impairment or deafness as a primary disability attended regular public schools. Approximately 62 percent of the students spent at least 80 percent of their school day in general education classrooms and approximately 308 educational interpreters provided interpreting services.

Approximately 35 percent of students who are deaf and hard of hearing come from homes where a language other than American Sign Language (ASL) or English is used regularly (Gallaudet Research Institute, 2013). Many school divisions throughout Virginia have students from homes where hearing parents speak Spanish, Pakistani, Farsi, and several other primary languages.

National data suggests that 30-40 percent of children diagnosed with hearing loss have one or more additional disabilities (Gallaudet Research Institute, 2013). The term "deaf plus" is often used to describe this population, which refers to a child's hearing loss compounded by additional conditions. Coexisting disabilities can range from mild needs that are easily corrected (e.g., visual acuity corrected with glasses or contact lenses) to severe needs that require carefully planned medical interventions (e.g., daily catheterization, special tube feedings, medication for seizures) and educational interventions (e.g., personal assistant, one-on-one resource instruction, tactile interpreting).

Unique Needs of Students Who Are Deaf and Hard of Hearing

Students who are deaf and hard of hearing have needs that differ from other groups of students. Most hearing children, with or without disabilities, enter school with a basic command of

language. They are able to receive, express, and process language, and, as a result, have extensive vocabularies. Programs, services, and curricula are established in most school divisions based on the assumption that children enter school with the basic linguistic skills necessary to acquire information in the content areas. School personnel generally assume that children have sufficient language skills that enable them to learn and develop social, literacy, and computational skills.

Children who are deaf and hard of hearing might not enter school with the same language background as their hearing peers. More than 90 percent of children who are deaf are born to hearing parents (Mitchell and Karschmer, 2004). Unless families receive appropriate early intervention services that provide them with a means of effective communication, these children may not be able to access the communication system of those around them. The unique language and communication needs of these students present special challenges to educators regarding appropriate programming and placement [National Association of State Directors of Special Education (NASDSE), 2018].

It is critical that students who are deaf and hard of hearing have communication systems that are accessible and allow for efficient social interaction and the sharing of ideas. Without communication skills, students will be severely limited in language development and may lack appropriate social skills and opportunities for meaningful interaction with peers.

Federal laws and national task forces have recognized the specific educational needs of students who are deaf and hard of hearing. These needs include:

- an understanding on the part of all service providers of the nature of deafness and training needed to work effectively with students who are deaf and hard of hearing;
- a communication mode that is respected and developed to an appropriate level of proficiency;
- teachers and support personnel who are proficient in the student's primary mode of communication [34 C.F.R. § 300.324(a)(2)(iv); 8 VAC 20-81-110 F.2.f];
- a sufficient number of peers who use the student's language/mode of communication [34 C.F.R. § 300.324(a)(2)(iv); 8 VAC 20-81-110 F.2.f];
- involvement in program development by parents and adults who are deaf and hard of hearing, as needed; and
- access to appropriate technology, including assistive listening devices.

The educational and life consequences of inaccessibility to communication and social isolation may include the following:

- reduced literacy levels (Holt, Traxler, & Allen, 1997, as cited in Siegel, 2000; Karchmer & Mitchell, 2003);
- increased risk for social-emotional disorders (Leigh, *et al*., 1989; Hindley & Kitson, 2000);
- lower graduation rates (Garberoglio, Cawthon & Sales, 2017);
- increased reliance on government assistance (Siegel, 2000); and
- lower average income than their hearing counterparts as well as unemployment and underemployment (Garberoglio, Cawthon & Bond, 2016).

Overall, data show that persons who are deaf and hard of hearing attained lower levels of education than their hearing peers. In 2015, 83 percent of adults who are deaf and hard of hearing in the U.S. had successfully completed high school, compared to 89 percent of hearing adults. Of students who are deaf and hard of hearing who enrolled in college, 18 percent completed a bachelor's degree compared to 33 percent of hearing students. (Garberoglio, Cawthorn & Sales, 2017). Students who meet college entrance requirements are currently offered a wide range of support services to access the post-secondary curriculum in Virginia.

Within the population of students who are deaf and hard of hearing, there are many variables that may affect access to progress in the general education curriculum. These variables include:

- type of hearing loss (Refer to Appendix B);
- degree of hearing loss and possible progression (Refer to Appendix B);
- age of onset (Refer to Appendix B);
- age at which intervention begins;
- effectiveness of intervention services;
- the family system;
- cultural and linguistic background; and
- additional cognitive and/or physical disabilities.

For all of these reasons, no single communication methodology, instructional strategy, technology or guideline can meet the needs of all students who are deaf and hard of hearing.

Language and Communication Options

The ability to communicate effectively is essential to the human experience and necessary for cognitive development, social and emotional well-being, linguistic competence and academic growth (NASDSE, 2006).

While students with normal hearing usually acquire language naturally, students who are deaf and hard of hearing may have limited daily access to the speech and language used around them and may enter school with little or no language or communication skills. Several communication options can be used by individuals who are deaf and hard of hearing. These generally range on a continuum from mostly visual to mostly auditory in their means of language transmission. Communication options presented to parents and families of children who are deaf and hard of hearing typically include the following:

- American Sign Language (ASL);
- Bilingual-Bimodal (BI-BI);
- Cued Speech/Cued Language);
- Listening and Spoken Language;
- Manually Coded English (MCE)/English based sign systems; and
- Total Communication Method (Houston, 2010).

It is important to note that no one language or communication approach has been found to be effective for all individuals (Marschark, Lang & Albertini, 2002). Despite the communication

option used, children need consistent exposure to proficient language models and opportunities to communicate in natural daily routines with teachers, peers, and family members. Regardless of the communication approach or approaches chosen, all families should receive thorough and unbiased information about all communication options and appropriate support and resources (local, state, national) for the language and communication approach the family chooses. (Refer to Appendix C)

Additional Factors to Consider

Cultural Diversity

America is a culturally diverse nation. Therefore, educating students who are deaf and hard of hearing and who are from homes where a language other than spoken English is used requires sensitivity to cultural, communication, work, and educational values within the student's home culture. Educators who work with these students are likely to benefit from collaborative work with teachers of English Language Learners (ELL) and other related service providers to understand the differences between language delays that result from hearing loss, from a multi-lingual environment, or from possible speech/language disorders.

Emotional Health

The communicative and concomitant social challenges confronted by persons who are deaf and hard of hearing might increase their risk for psychological distress, including depression, frustration, and lack of self-esteem. During the early school years, children normally identify with their parents and siblings who are similar to them in many ways. This identification process aids in the development of healthy social behaviors, moral values, and gender roles. When children do not have such models, they can become less confident and are more likely to exhibit inappropriate behavior. Hearing parents and other hearing adults can serve as good examples for young children who are deaf and hard of hearing if they can communicate effectively with them. Having role models who are deaf and hard of hearing also appears to be important for children who are deaf and hard of hearing (Marschark, Lang, and Albertini, 2002).

Cognitive Development

Studies show that in the domains of visual attention, memory, problem solving, and creativity, there are some differences between deaf and hearing learners (Marschark, Lang, and Albertini, 2002). In most cases, the differences can be reduced or eliminated through changes in instructional methods. Teachers and parents should foster cognitive and language growth by developing a rich environment for language learning, discussing and encouraging the use of multiple meanings of words, and noting how the context influences the interpretation of a word. Studies show that use of problem-solving games, encouragement of language creativity, and use of fantasy and imagination foster improved performance on academic problem-solving tasks and can lead to improved performance and reading if they are introduced early and revisited regularly (Marschark, Lang, and Albertini, 2002).

SERVICE PROVISION

Identification

Children who are deaf and hard of hearing should be identified as early as possible. Early identification and effective early intervention are more likely to lead to age-appropriate development than later identification (Yoshinago-Itano, 2003). In its 2007 Position Statement, the Joint Committee on Infant Hearing (JCIH) stated that "the goal of early hearing detection and intervention (EHDI) is to maximize linguistic competence and literacy development for children who are deaf or hard of hearing" (JCIH, 2007). Identification of children who are deaf and hard of hearing (as well as children with other conditions) has two primary requisites. The first is an informed public, including parents, educational personnel, medical service providers, and agencies that address the needs of children and families. The second is an ongoing identification and referral process, including screening that complies with state and federal regulations in the identification of infants and children who are deaf and hard of hearing. For additional information, visit the Virginia Early Hearing Detection and Intervention Program website.

Early identification requires a broad spectrum of involvement. Educators and community and health services personnel should work collaboratively and establish provisions for medical and audiological screenings to identify preschool and school-aged children with probable hearing loss. Efforts must also be made by all educational programs (public, private, day, and residential) to ensure regular review of hearing screening policies and practices of children entering school and students within a program or division. Training for school administrators, classroom teachers, and support personnel that addresses current issues and concerns about students who are deaf and hard of hearing should be included in staff development efforts. School divisions and state operated programs must also stay informed regarding community services and resources for individuals who are deaf and hard of hearing and their families.

Information about hearing screening, conservation and audiological services can be found in the *Virginia School Health Guidelines* (May, 1999) and the 2009 Virginia Regulations, at 8 VAC 20-81-50. The American Academy of Audiology Childhood Hearing Screening Guidelines for children ages 6 months through high school (2011) is available by searching, Childhood Hearing Guidelines. Additional comprehensive resources for hearing screening, including training videos, are the Supporting Success for Children with Hearing Loss Hearing Screening Resources.

It is important to note that if a student is suspected of having a hearing loss, evidence of passing a previous screening or evaluation should not be accepted solely as confirmation of normal hearing. Progressive hearing loss and later onset of hearing loss are not uncommon.

Parents and school personnel should consider the need for all students who have hearing loss to be screened for Usher Syndrome as they get older. This syndrome, which results in deaf-blindness, will have significant implications for educational planning. If a student has been diagnosed with Usher Syndrome or any syndrome that puts hearing and vision at risk, support services (e.g., orientation and mobility, instruction in the use of Braille, and assistive technology)

may be required to meet the student's educational needs. Resources may be obtained through the Virginia Project for Children and Young Adults with Deaf-Blindness.

Family Education and Intervention

Early diagnosis and intervention are critical components of programs serving students with hearing loss. The Virginia Early Hearing Detection and Intervention (VA EHDI) program operates throughout the Commonwealth of Virginia in order to identify infants with hearing loss. The goal of the VA EHDI program is to screen infants by one month of age in order to establish a diagnosis before three months of age and ensure enrollment in early intervention services by six months of age. Research has shown that children with hearing loss who are identified early and receive appropriate intervention can develop communication skills comparable to those of their hearing peers (Yoshinago-Itano, 2003).

The VA EHDI program is managed by the Virginia Department of Health. Virginia law and regulations require that all hospitals with newborn nurseries and all hospitals with neonatal intensive care services screen the hearing of all newborns prior to discharge and report to the Virginia Department of Health [Va. Code §32.1-64.1 (2007) and the *Regulations for Administration of the Virginia Hearing Loss Identification and Monitoring System*, 12 VAC 5-80]. Hospitals are also required to inform the parent and the child's primary care provider about the infant's risk status and/or screening results and recommendations for follow-up. In addition, persons who provide audiological services are required to:

- report all children who receive hearing evaluations or audiological services under the age of three to the Virginia Department of Health;
- give parents information about hearing loss, including communication options; and
- refer families to local early intervention services.

It is recommended that children who pass the newborn screening but who are at risk for developing hearing loss continue to be followed closely by parents and the primary health care providers with referral to audiologists for hearing assessments when indicated. For additional information, visit the Virginia Department of Health website.

When a child, age birth to three years, with a hearing loss is identified, referral should be made to Virginia's early intervention program. Referral may be made by anyone. The program operates within the Virginia Department of Behavioral Health and Developmental Services and is called the Infant and Toddler Connection of Virginia. A child with a diagnosed hearing loss meets the criteria for early intervention services under the special education law (Part C, IDEA 2004) and regulations. Children up to three years of age may be served through an Individualized Family Services Plan (IFSP) which is developed in conjunction with the family according to federal and state law and regulations. The Joint Committee on Infant Hearing (JCIH) provided a supplement (2013) to the JCIH 2007 Position Statement with comprehensive guidelines for early hearing detection and intervention programs on establishing strong early intervention (EI) systems with appropriate expertise to meet the needs of children who are deaf or hard of hearing.

Should the family choose to transition to public school services, the child must meet the two-year-old age requirement for transition and other regulatory special education requirements. When this occurs, an Individualized Education Program (IEP) is developed.

The goal of both the IFSP and the IEP is to provide appropriate services to the child who is deaf or hard of hearing (and to his/her family in the case of an IFSP) through a detailed plan which is developed to meet the specific needs of the child. Services delivered through an IEP can only occur after the child has been found eligible under special education law and regulations. A multidisciplinary approach should be used to evaluate a child with hearing loss. Identification of developmental, cognitive, language, motor, or adaptive delays may require the expertise of additional team members.

It is important that providers collaborate to provide a smooth transition from early intervention to special education services. The goals and objectives of both the IFSP and the IEP should be coordinated.

It is critically important that parents are informed about the various communication options used by children with hearing loss. (Refer to Appendix C) Prior to writing an IFSP or IEP, families should:

- receive unbiased information about language and communication choices;
- access current literature about various communication options;
- have opportunities to observe preschool programs;
- meet children and adults who are deaf and hard of hearing;
- discuss options with professionals in the field of deafness;
- be given networking opportunities with other families with children who are deaf and hard of hearing; and
- be given access to state and national resources that can provide additional information.

The Virginia Department of Health provides information for parents. Information for parents is also available at the Virginia Department of Education website.

Discussion with families should focus on acknowledging that the use of specific communication/language approaches will require ongoing assessment in order to determine if the child is making satisfactory progress and if the current language approaches continue to meet the child's and the family's goals.

Parents should be considered the primary communication partners with their children. Parent training and education should be included as an integral part of an IFSP. Parents should also be considered the primary communication partners by IEP Teams for young children with hearing loss. Training parents to implement the goals and objectives of the IFSP is consistent with Part C service provision in a natural environment, requirements of special education law, and regulations for increased parental involvement in services provided to children with disabilities. IFSP and IEP Teams should consider including parent education regarding:

- diagnostic information relative to the child's hearing loss, including:
    - the interpretation of audiograms;

    - the definition and importance of the child's "hearing age" (Refer to Communication/Language Assessment);
    - amplification benefits and limitations;
    - the correlation between audiometric information and speech perception;
    - listening distances and the effects of noise in the home and school environments; and
    - medical diagnoses that impact the hearing loss (e.g., middle ear effusion).
- the importance of using signed or spoken language (with or without Cued Speech) effectively with the child throughout the day.
- Families who choose a sign language system should be provided with instruction in the chosen sign system in a systematic manner, recognizing the importance of developing competency in the visual language as quickly as possible in order to give the child appropriate language models.
- Families who choose Cued Speech should be provided with instruction in the Cued Speech system to develop competency as quickly as possible in order to cue fluently and give the child full visual access to spoken language.
- Families who choose listening and spoken language should receive ongoing instruction in modeling spoken language (e.g., using grammatically correct structures, "parentese," developmentally appropriate vocabulary and sentence length with emphasis on appropriate pitch, rate and duration).
- Consistent use of hearing technology as prescribed by an audiologist is important especially for families whose communication choice is listening and spoken language.
- the stages and schedules of normal language development and provision of information about parallel language development. Parents should be educated about current research and critical periods for developing language. (Refer to Appendix I for links to suggested developmental milestones resources.)
- the use, monitoring, maintenance and checking of hearing technology. (Refer to Appendix D)
- the availability of and the need for alerting and safety devices, telephone adapters, TTYs, videophones, and devices which support access to sign or spoken language via written text such as captioned media. (Refer to Assistive Technology)
- methods used to gather data for evaluation purposes and ongoing assessment procedures, test scores and other means of determining progress. Parents should be expected to provide input on the progress of goals and objectives implemented in the home setting so that appropriate therapy/lesson plans are used. As the child moves into elementary, middle and high school, parents should continue to be fully informed about data obtained for assessment and progress monitoring. Parents may provide school divisions with information and assessment results from any private providers for consideration by school teams.

Effective collaboration with the family should also involve:

- discussion about modifying or changing the child's program or services based on objective data collection and progress. The IFSP or IEP meetings should be convened if objectives need revision or modification or if additional services are needed.
- continued efforts to involve parents in their child's education regardless of the age and grade of the child. School staff should continually encourage parents in their efforts to

acquire the necessary strategies to support the child's communication approach and provide academic support throughout the child's school career.

- consideration of the influences of family structure, including primary caregivers, siblings and extended family, on the child especially in the area of communication.
- identification of cultural differences reflected in family dynamics and patterns of communication. Children from bilingual families may present additional needs. Particular attention should be provided to parents of children from homes with multiple languages regarding standardization of the language presented to the child. (Refer to Cultural Diversity)
- consideration for supporting the psychological well-being of the child.
- (Refer to Additional Factors to Consider)

A CDC resource to consider is *Making a Plan for Your Child: IFSP Considerations for Children who are Deaf and Hard of Hearing*.

Referral

Students who are deaf and hard of hearing may need supports in the general education setting or special education and related services to receive a free appropriate public education. School divisions are responsible for ensuring that students who may have disabilities and require special education services are identified and evaluated. Each school must have a team to review records and other performance evidence of the student being referred in order to make recommendations to meet the student's educational and behavioral needs. Available information regarding the student, including hearing screening results, communication mode and abilities, and behavioral observations by teachers and parents should be considered.

If the student is suspected of having a hearing loss, the school's team should include a specialist who is knowledgeable regarding issues relative to students who are deaf and hard of hearing (e.g., teacher of the deaf and hard of hearing, audiologist, speech-language pathologist). If one of these professionals is not available, consultation may be obtained from the Virginia School for the Deaf and the Blind (VSDB) or from the Virginia Network of Consultants for Professionals Working with Students Who are Deaf and Hard of Hearing (VNOC). (Refer to Appendix A.)

Students who are deaf and hard of hearing may also have visual, motor, learning, or social-emotional problems that may affect their academic, social, and/or communicative performance in school. The school-based team should consider the need for additional information in these areas.

Based on research findings, even minimal, fluctuating or unilateral hearing losses can cause language and cognitive delays, and can be correlated with academic failure (CDC, 2005 in NASDSE, 2018, p. 8). For students with recurrent otitis media (middle ear infection), the school-based team should consider classroom modifications to address any accompanying conductive hearing loss. Provisions for monitoring through repeated acoustic immittance testing (tympanometry) should also be considered.

Students with unilateral hearing loss (UHL, defined as hearing loss in one ear) may also be reviewed by the school-based team. While a child with a unilateral loss may develop speech and language at a normal rate, studies have reported a higher failure rate and a higher percentage of students repeating grades than students with normal hearing in both ears (Oyler, Oyler & Matkin, 1988). The effects of UHL may encompass not only auditory effects such as difficulty hearing in noise, but also may impact a child in other ways, such as decreased self-esteem and fatigue. Although assistive listening devices traditionally were not offered as options, more recent literature suggests that devices such as, hearing aids, or frequency modulation (FM) systems may provide benefit in the classroom. Early intervention for children with UHL may provide more favorable outcomes (International Journal of Pediatric Otorhinolaryngology, May, 2013).

Evaluation

Evaluation means procedures used to determine whether a child has a disability and the nature and extent of the special education and related services that the child needs (34 C.F.R. 300.15). Special education law and regulations require school divisions to ensure the following:

- assessments and other evaluations used to assess a child are: (1) selected and administered so as not to be discriminatory on a racial or cultural basis; (2) provided and administered in the child's native language or other mode of communication and in the form most likely to yield accurate information on what the child knows and can do academically, developmentally, and functionally, unless it is clearly not feasible to so provide or administer; (3) used for the purposes for which the assessments and measures are valid and reliable; (4) administered by trained and knowledgeable personnel; and (5) administered in accordance with any instructions provided by the producer of such assessments;
- the child is assessed in all areas of suspected disability; and
- assessment tools and strategies that provide relevant information that directly assists persons in determining the educational needs of the child are provided. [34 C.F.R. §300.304(c)(7); 8 VAC 20-81-70 C.4].

These specifications raise several issues for the assessment of students who are deaf and hard of hearing. Educators should consider the following guidelines:

- **Be familiar with the ethical, professional and legal standards for specific professions regarding assessment of low incidence or specialized populations**. Typically, these guidelines cover topics such as required competency, need for additional training and consultation, standards for fair and unbiased assessment, and appropriate test selection and interpretation of results for students who are deaf and hard of hearing. (Refer to Appendix F: Psychological Assessment Considerations with Students Who are Deaf and Hard of Hearing)
- **Consider the student's primary mode of communication and the goal of the specific assessment.** Explore whether there is a professional such as a psychologist, teacher, speech-language pathologist, or other educator who administers tests and who has fluency in the student's primary mode of communication (e.g., ASL, a signed English system, Cued Speech) or familiarity with technology for persons who are deaf and hard of hearing. If not, testing is likely to require an additional person, an interpreter or a transliterator, who communicates the language of the test administrator and possibly the

responses of the student. Review the test with the interpreter/transliterator ahead of time and be familiar with the potential impact of using an interpreter/transliterator on the assessment process. (Reesman et al., 2014; Marschark & Houser, 2008; Miller et al., 2015). Remain aware of how a child's "hearing age," the age at which a child consistently uses hearing technology (e.g., hearing aids, cochlear implant) may affect test administration and interpretation of some tests.

- **Select assessment procedures that are reliable and valid for students who are deaf and hard of hearing.** Deafness is a low incidence disability and there are few studies exploring the validity of specific tests for use with students who are deaf and hard of hearing. In this situation, professionals with experience in the field of deafness should make selections based upon their expertise, the individual needs of the student, the available research, and the goals of the assessment (Braden, 2017; Maller, 2003; Miller et al., 2015; Reesman et al., 2014).
- **Recognize how accommodations and modifications for communication may create a nonstandard administration and assessment process.** Often it is impossible to administer a specific test following the strict administration and interpretation guidelines developed for hearing students. In this situation, it is important to describe any adjustments made to the assessment process and the communication mode used by both the student and the examiner. Professionals should be aware of the communication, linguistic and cultural influences upon the scoring and interpretation of tests. These accommodations may produce a situation where it is impossible and/or inappropriate to use standard scores and therefore it is necessary to provide more descriptive and qualitative interpretations. When interpreting tests into sign language, some test items will not translate directly from English to ASL. Interpretation into ASL does not address other test factors such as appropriateness of picture support, cultural bias, topic, and sound-based content that may confound the validity of the test for students who are deaf and hard of hearing (Miller et al., 2015).
- **Collect information from multiple sources using multiple formats and procedures.** Given the significant challenges of collecting valid assessment information for students who are deaf and hard of hearing, useful assessments will rely upon information collected from multiple settings and in multiple formats. Parents, general educators, special educators, speech-language pathologists, interpreters, and audiologists are only some of the important sources of information to consider for assessments. Using multiple procedures, such as interviews, direct observations, classroom performance, behavior rating scales, standardized assessments and informal assessment procedures, will provide the most complete information for making special education decisions (Braden, 2017; Maller, 2003; Miller et al., 2015; Reesman et al., 2014).

Deaf Norms

As mentioned earlier, there are few studies exploring the validity of specific tests for use with students who are deaf and hard of hearing. The diversity of the population of students who are deaf and hard of hearing makes information about how typical students who are deaf and hard of hearing perform on standardized assessments (deaf norms) a challenge. Tests should not be ruled out or ruled in based solely on the availability of deaf norms. (Refer to Appendix F for additional information on the topic of deaf norms.)

Assessment Domains

Audiological Assessment

All students new to a school division must be screened within 60 business days of initial enrollment. The 2009 Virginia Regulations further require that school divisions have procedures, including timelines, to document the screening of children in the areas of hearing according to the requirements of 8 VAC 20-250-10 (§ 22.1-273 *Code of Virginia*); 8 VAC 20-81-50 C 1.a.

If a student fails the school hearing screening, the student may be re-screened after 60 business days if the original results are not considered valid. The *Virginia School Health Guidelines* recommend that rescreening be scheduled within two weeks of the first screening. Local school divisions must provide written notice to parents of the scheduled screening and, if the student does not pass, the results of the screening. The 2009 Virginia Regulations further require the school division to refer the student "to the special education administrator or designee if results suggest that a referral for evaluation for special education and related services is indicated. The referral shall include the screening results" (Virginia School Health Guidelines, May, 1999, p. 197; 8 VAC 20-81-50 C.1.f).

In addition, students who are referred for evaluation in order to determine eligibility for special education services under special education law and regulations must be screened for hearing loss. Should a student fail two screening tests, a complete audiological assessment must be done (8 VAC 20-81-70 C.14).

A student with identified hearing loss who is evaluated to determine whether the student has a disability and is eligible for services under Part C or Part B of special education law and regulations should have a complete audiological assessment, including tests which will assess middle and inner ear functioning (*Virginia Code* § 22.1-214). The following assessment components may be administered in order to determine the degree and extent to which a hearing loss may impact the student's academic progress:

- Pure tone air and bone conduction thresholds or minimum response levels to determine the degree and nature of the hearing loss. Hearing loss may present as conductive, sensorineural, or mixed. (Refer to Unique Needs of Students Who Are Deaf and Hard of Hearing and Appendix B)
- Speech Awareness Thresholds to determine the minimum level at which speech can be detected.
- Speech Reception Thresholds to determine the minimum level at which the child can detect and understand speech stimuli.
- Speech Recognition testing to determine the child's ability to accurately repeat controlled speech stimuli at comfortable levels above speech reception thresholds.
- Immittance testing to determine middle ear status. Test results yield information relative to eardrum mobility and compliance and acoustic reflex measurements.

For children who are not able to respond to the tests listed above:

- Electrophysiological tests, which may include Auditory Brainstem Response (ABR) testing, may be necessary to confirm or deny the presence of a hearing loss and determine degree of hearing loss, as warranted, and/or
- Otoacoustic Emission testing to assess the integrity of the inner ear or cochlea, as warranted.
- A combination of Auditory Brainstem Responses, Otoacoustic Emission test findings and behavioral audiometric tests may be necessary to fully diagnose the hearing loss and differentiate whether the loss is conductive, sensorineural or mixed, or whether the hearing loss is caused by Auditory Neuropathy Spectrum Disorder (ANSD).

The age of the student, degree of hearing loss, ability to perceive or imitate speech, and ability to respond to a conditioned task may be factors that affect the proper completion of an audiological evaluation. Assessment may become an ongoing process in order to effectively acquire all necessary information for a comprehensive evaluation.

Continued management of a child's hearing loss following diagnosis requires that the child be seen for updated audiological evaluations on a periodic basis. Young children may be seen for updated testing every three to six months or sooner. Older children may be seen at least annually for updated assessment. Children with hearing aids or cochlear implants are usually followed closely in order to monitor the function of their respective devices. Furthermore, evaluations may be used to document the risk or occurrence of progressive hearing loss and ongoing medical intervention.

Once a hearing loss is diagnosed, further evaluations should be conducted to determine the most appropriate amplification devices or candidacy for cochlear implantation.

A hearing aid evaluation and fitting usually include:
- pure tone air conduction testing, unaided and aided;
- Speech Awareness Threshold, Speech Reception Threshold and Speech Recognition testing, unaided and aided;
- determination of maximum comfort levels, dynamic range for amplification and functional gain of the hearing aid;
- determination of appropriate earmold fitting; and
- real ear measurements which are especially important to evaluate hearing aid and earmold responses objectively.

Based on the evaluations, the audiologist may also provide:
- explanations of the benefits and limitations of sensory devices and the effect of devices on perception of speech;
- information relative to educational planning given the degree of hearing loss, device usage and expectations for speech and language development;
- schedules for management of hearing loss and amplification devices/cochlear implant(s);
- updated reports to educational service providers following parental permission and school division procedures; and

- recommendations for assistive listening devices, as needed, as well as other assistive technology needs and support for appropriate fitting and management of assistive listening devices.

Audiological assessment, fitting and device management must be completed by an audiologist licensed by the Virginia Board of Audiology and Speech-Language Pathology. The 2009 Virginia Regulations, at 8 VAC 20-81-100 E, and the federal implementing regulations, at 34 C.F.R. § 300.113(a) and (c), state that each school division must ensure that hearing aids worn in school by children with hearing impairments, including deafness, and the external components of surgically implanted medical devices are functioning properly, including completing routine checks. However, the law and regulations exclude the school division from being responsible for the post-surgical maintenance, programming, or replacement of the medical device (e.g., a cochlear implant) that has been surgically implanted or of an external component of the surgically implanted medical device. The federal regulations, at 34 C.F.R. § 300.34(b), and the Virginia Regulations, at 8 VAC 20-81-10, further define related services as not including a medical device that is surgically implanted, the optimization of the device's functioning (e.g., mapping), maintenance of that device, or the replacement of that device. (Refer to Appendix D)

Communication/Language Assessment

Communication is one of the most important areas of assessment for students who are deaf and hard of hearing. Many preschool students who are deaf and hard of hearing enter school without the conversational or narrative language skills (in either spoken English or ASL) necessary to develop preliteracy skills. It is important to understand that language precedes literacy and these skills form the linguistic foundation of written language literacy.

Therefore, priority should be placed on assessment of the conversational and narrative language skills in the student's preferred communication modality. For ASL users, a scale of conversational proficiency developed for typically developing children who are deaf and hard of hearing is suggested. It is essentially a rubric to be completed by at least three people, one of whom should have native fluency in the child's first natural language. (Refer to Appendix E, Expressive and Receptive Language Assessment/Kendall.)

Some professionals who specialize in communication assessment refer to this as authentic assessment (e.g., Schirmer, 2000) because it involves real communication that does not fit the parameters of formal testing. Functional language/narrative assessment of the student through language sampling may provide more authentic information than scores obtained on formal measures. When a student's day-to-day communication involves sign language or another visual communication system, videotaping is a valuable assessment tool. Formal standardized measures of ASL proficiency normed on children who are deaf and hard of hearing currently are not available.

Spoken English proficiency and intelligibility can be assessed using traditional procedures and articulation measures if the student is using relatively fluent utterances or has an adequate single word vocabulary to perform the assessments. Intelligibility measurements should consider the listener's:

- experience with the speech of individuals who are deaf and hard of hearing;
- familiarity with the student's speech in particular;
- prior knowledge of the topic; and
- degree of visual access to the speaker's face.

A student's "hearing age," the age at which a child consistently uses hearing technology (e.g., hearing aids, cochlear implant) should be considered when determining age-appropriate speech targets (Perigoe and Paterson, 2013). When assessing social-pragmatic communication, consider the student's direct communication with peers and adults in a variety of settings and how the student communicates using an interpreter. The ability to attend to and communicate through an interpreter, and to request and make repairs when communication fails, is not uniform across all students who work with interpreters (Seal, 2004). Assessing the student's work with interpreters (Seal, 2000), the ability to use telecommunication technology (e.g., email, text messaging, telephone relay) or other text recordings can be addressed through authentic assessment. The student's sensitivity to and accommodation of varying sign skills among communication partners should also be noted.

Developmental Assessment

Developmental assessments may be requested to determine initial eligibility for special education, collect a baseline of global functioning, develop intervention goals, and/or transition a child from early intervention services into a school setting. Developmental assessments may be conducted by:

- parent infant educators;
- early intervention service providers;
- preschool specialists;
- teachers;
- psychologists; and/or
- social workers.

Developmental assessments typically compare a child who is deaf or hard of hearing to a normative group of hearing peers or against a criterion of developmental skills typically established at specific ages. Examiners should consider the auditory and communication experiences of a young child with hearing loss when interpreting these scores for parents and/or educational purposes. Developmental assessments typically cover domains such as communication, fine and gross motor skills, cognitive skills, pre-academic skills, social-emotional development, and adaptive functioning. (Refer to Appendix E for links to suggested developmental milestones resources and charts.)

Educational Assessment

A comprehensive educational assessment of a student who is deaf or hard of hearing may be completed in order to establish baseline levels of academic performance, monitor progress over time, develop goals and objectives for a student's IEP, and determine present level of performance. It is recommended that educational or academic testing be conducted along with assessments of receptive and expressive language abilities in order to determine a comprehensive

picture of a student's strengths and needs. Teachers and professionals should consider the goal of the assessment when selecting test measures because different kinds of measures (e.g., criterion-referenced, norm-referenced, alternate or authentic, curriculum-based) will provide different information. The use of typical, standardized, norm-referenced achievement tests can be complicated by communication modality, difficulty with translating questions, limited validity studies, and interpretation of scores, but these tests still may be appropriate sources of information in context with classroom data. Criterion-referenced tests and curriculum-based measurement probes may provide a more unbiased method of monitoring progress over time, especially when an individual student's performance is compared against the student's own baseline rather than against those of hearing peers. (Refer to Appendix E) Authentic assessments and collection of performance-based evidence (portfolios) complement other sources of educational data. Classroom observations conducted by a TODHH or other d/hh knowledgeable professional may provide insight into how a student is accessing information in the classroom, benefiting from assistive listening devices, interacting with teachers and peers, and responding to instructional strategies.

Teachers are encouraged to monitor educational progress closely in students who have hearing loss. If a student is not making adequate educational progress, the IEP Team should reexamine communication access, consider trial placements for interventions and services, and may consider referring the student for a comprehensive multi-disciplinary evaluation to rule out additional influences upon learning. (Refer to Appendix E)

Psychological Assessment

Psychological assessments offer a standardized approach for collecting information about a student's strengths and needs across a variety of functional domains. These domains might include cognitive skills, problem solving, memory and attention, as well as broader life skills such as social-emotional development, visual-motor integration, and adaptive living skills. Assessment techniques might include: interviews with family members, the student and educational personnel; behavioral and classroom observations; functional behavioral assessment; and/or administration of standardized psychological tests. When working with students who are deaf and hard of hearing, the psychological test results should be interpreted within the context of a multi-disciplinary assessment and be based upon a variety of techniques and measures (Blennerhassett, 1990).

Further information on assessment considerations for students who are deaf and hard of hearing and the domains that may be included in a comprehensive psychological assessment battery along with suggested assessment tools is in Appendix F. These domains include:

- nonverbal abilities;
- verbal comprehension or verbal abilities;
- cognitive processing abilities;
- executive functioning;
- social-emotional development; and
- adaptive living or daily living skills.

Consultation regarding psychological assessment of children who are deaf and hard of hearing is available from the Virginia Network of Consultants (VNOC). (Refer to Appendix A)

Eligibility

The purpose of eligibility is to determine if a child has a disability and is in need of special education and related services. Eligibility for special education for students who are deaf and hard of hearing follows the same procedures as for students with other disabilities (34 C.F.R. § 300.306; 8 VAC 20-81-80). The 2006 federal implementing regulations, at 34 C.F.R. § 300.101(c), provide that a free appropriate public education must be made "available to any individual child with a disability who needs special education and related services, even though the child has not failed or been retained in a course or grade, and is advancing from grade to grade" (8 VAC 20-81-100 A). As such, a student should not be precluded from consideration for special education and related services merely because the student has not yet failed academically. The VDOE provides guidance for eligibility teams through the following guidance documents which can be found at the VDOE website:

- Evaluation and Eligibility for Special Education and Related Services: Guidance Document (2018); and
- Guidance on Evaluation and Eligibility for the Special Education Process Appendix A: Sample Evaluation and Eligibility Forms (2017) (Note: There are 14 Disability Worksheets, including Deafness, Hearing Impairment and Deaf-Blindness.).

The following auditory disorders may constitute conditions that warrant consideration for special education and related services:

- sensorineural hearing loss
  - bilateral or unilateral
  - congenital or acquired
  - progressive, fluctuating, or stable
- conductive hearing loss
  - bilateral or unilateral
  - intermittent or recurrent, progressive or stable
- mixed hearing loss
  - bilateral or unilateral
- Auditory Neuropathy Spectrum Disorder (ANSD)

Note: Auditory processing disorder, also known as central auditory processing disorder, is a clinical diagnosis, which may sometimes require special education and related services. It is not hearing acuity impairment. "Regardless of the eligibility determination, students with an auditory processing disorder will benefit from a multidisciplinary team approach to management. The team may include the classroom teacher, speech-language pathologist, school psychologist, educational diagnostician, audiologist, parent, and special education teacher if appropriate (often the teacher of students with learning disabilities)." (VDOE, *Speech-Language Pathology Services in Schools: Guidelines for Best Practice*, Revised 2018, p. 75.)

For students with hearing loss, data and information gathered from the following areas are recommended for the team's review and consideration of eligibility as a student with a disability:

- academic achievement;
- classroom performance;
- learning strategies;
- competence in spoken language (speech/language delays);
- competence in written language;
- social and emotional adjustment; and
- adaptive skills.

The effect of a hearing loss on a given student's achievement is a result of several interactive factors including:

- type of hearing loss;
- etiology and age of onset of hearing loss;
- age at which intervention occurred;
- effectiveness of early intervention services;
- language acquisition;
- visual and auditory perceptual and processing abilities;
- linguistic and communicative competence for age; and
- health issues and/or disabling conditions.

If a student is found to be eligible for special education due to hearing loss, the degree of special education and related services varies for each student.

In determining eligibility for preschool services for a child transitioning from Part C services, team members, including early intervention providers, should consider the supports needed for the child to make a successful transition to the identified school setting. Without services, a child who has a hearing loss is unlikely to be on par with his or her hearing peers upon entry into kindergarten. A professional who is knowledgeable about deafness and hearing loss such as a TODHH or educational audiologist should be a participant at the eligibility meeting.

IEP Development

When the eligibility committee has determined that a student who has a hearing loss is eligible for special education services, an individualized education program (IEP) must be developed within 30 calendar days (8 VAC 20-81-110 B.2).

The following factors should be considered when developing an IEP for a student who is deaf or hard of hearing:

- communication needs and the child's and family's preferred mode of communication;
- linguistic needs;
- severity of hearing loss and potential for using hearing;
- academic level;
- social, emotional, and cultural needs, including opportunities for peer interactions and communication; and

- consideration of curriculum content and method of curriculum delivery [57 Fed. Reg. 49275 (October 30, 1992)].

Special education law and regulations require the IEP Team to consider several "special factors." In the case of a child who is deaf or hard of hearing, the IEP Team must consider:

- the child's language and communication needs;
- opportunities for direct communication with peers and professional personnel in the child's language and communication mode;
- academic level; and
- the full range of needs, including opportunities for direct instruction in the child's language and communication mode [34 C.F.R. §300.324(a)(2)(iv); 8 VAC 20-81-110 F.2.f].

The IEP for any student who is deaf or hard of hearing should be communication driven. A tool to assist the IEP Team in its consideration of a student's communication needs is a "communication plan." Typically, "communication plans identify the child's primary language and/or mode of communication and describe what the school will do to support the child's language development and communication access needs" (NASDSE, 2018, p. 30). The Virginia Communication Plan for a Student Who is Deaf or Hard of Hearing (Refer to Virginia Communication Plan-Appendix G) is recommended for use during the development of the initial IEP and reviewed annually as it provides a means for the IEP Team to examine whether or not the student's communication needs are being met and to plan for support. The Virginia Communication Plan is available on the VDOE website.

Placement

The *Individuals with Disabilities Education Act* requires all children be educated in their least restrictive environment (LRE) with their non-disabled peers. Using inclusive practices, such as placement in the general education classroom, is generally perceived to ensure greater access to the general education curriculum. However, as early as 1986 with passage of the *Education of the Deaf Act* and the Commission on Education of the Deaf's report, *Toward Equality: Education of the Deaf* (1988), it was recognized that the concept of LRE for children who are deaf and hard of hearing and placement decisions needed special consideration. The unique communication and language needs of children who are deaf and hard of hearing may present special challenges to IEP Teams when determining a child's LRE. Continuous access to information and opportunities for both incidental learning and learning through peer interaction are important considerations when determining LRE.

The Commission noted that the movement of children into general education classrooms, while desirable and appropriate for many children who are deaf and hard of hearing, created an "educational and psychosocial void for others. Particularly affected were those children who were deaf and used visual communication systems (e.g., ASL, English signs, Cued Speech) as their primary language" (Baker-Hawkins & Easterbrooks, 1994, p. 6). The U.S. Department of Education issued a Notice of Policy Guidance on Deaf Students Education Services [57 Fed. Reg. 49274 (October 30, 1992)], to implement several COED recommendations regarding

appropriate education for students who are deaf. The Policy Guidance listed factors to be considered in developing the IEP, including:

- communication needs and the child's and family's preferred mode of communication;
- linguistic needs;
- severity of hearing loss and ability to use residual hearing;
- academic level;
- social, emotional, and cultural needs, including opportunities for peer interactions and communication; and
- consideration of curriculum content and method of curriculum delivery.

Students who are deaf and hard of hearing vary in their individual profiles and abilities. Additional factors to consider may include a child's "hearing age" (the age at which a child consistently uses hearing technology) as well as additional disabilities. All program options should be considered by the IEP Team, including the parents, and the most appropriate one selected based on the needs of the individual child.

A continuum of alternative placements and services should be considered as a part of the IEP process for students who are deaf and hard of hearing. Options include:

- direct instruction and/or resource services within the regular class with support services from a teacher who has the DHH endorsement, speech-language pathologist, educational audiologist, and/or educational interpreter;
- general education class with instruction in the resource room;
- selective placement in the general education program according to abilities of the student with related services as necessary within the resource room from a teacher who has the DHH endorsement, speech-language pathologist, educational audiologist, and/or educational interpreter;
- self-contained class for students who are deaf and hard of hearing with full-time academic instruction by a teacher who has the DHH endorsement in a general education public school facility; non-academic instruction with hearing peers; and related services provided as necessary (speech-language pathologist, educational audiologist and/or educational interpreter);
- self-contained class with full-time academic/developmental and nonacademic instruction in general education public school facility and related services provided as necessary (speech-language pathologist, educational audiologist, teacher who has the DHH endorsement and/or educational interpreter);
- separate public day school for students who are deaf and hard of hearing;
- private day school for students who are deaf and hard of hearing;
- public and/or private residential school for students who are deaf and hard of hearing;
- homebound; or
- hospital.

Students who are deaf and hard of hearing and who have one or more additional disabilities (e.g., intellectual disability, deaf-blindness, emotional disability, learning disability, orthopedic impairment, and/or autism) may require placement and/or services from other categorical special education programs. Students who are deaf and hard of hearing should have opportunities for

participation with hearing peers and with peers who are deaf and hard of hearing. Members of each IEP Team should consider a student's unique needs and each of the following factors when developing an appropriate program:

- academic performance and developmental needs;
- necessary curricular modifications or accommodations;
- student's communicative/language abilities;
- the level of communication access in the classroom, home, and overall school environment;
- qualifications and communicative competencies of personnel;
- quality of interpreting services and the ability of the child to use them;
- availability of a sufficient number of age-appropriate peers who are deaf and hard of hearing and who communicate using the same methodology (for children who primarily use listening and spoken language, availability of a sufficient number of age-appropriate peers who are not delayed in speech and language);
- behavioral management or assistance needed;
- physical characteristics of the setting (visual, acoustics);
- preference of the child and family;
- student motivation and attitude; and
- needed technology.

It is important for students with hearing loss to interact with peers who are also deaf and hard of hearing. Every effort should be made to provide instruction and direct communication in the student's preferred language mode. "If students use ASL, signs or cued speech, fluent adult and student signers with whom they can communicate effectively are especially critical. Adult role models are beneficial to self-awareness, social communication and overall social-emotional well-being" (NASDSE, 2018, p. 3).

The Virginia School for the Deaf and the Blind

The Virginia School for the Deaf and the Blind (VSDB) is located in Staunton, Virginia. The VSDB is a state agency that provides a comprehensive, state-aligned education program to students through age 21 who are deaf or hard of hearing, blind or visually impaired, deafblind, or deaf or blind with other disabilities. A student with an IEP may be referred by the local educational agency for consideration of placement at the VSDB through the VSDB admissions process. Upon admission, a student may attend as either a residential or day student. The VSDB Outreach Services program assists early intervention providers and local school divisions in meeting the needs of children with sensory disabilities and their families across the Commonwealth.

PERSONNEL

Education personnel who work with students who are deaf or hard of hearing encompass a wide range of knowledge, skills and abilities to meet the variety of services and supports needed by each child. Collaboration among specialized instructional support personnel families, students and communities is a key component to successful provision of services (NASDSE, 2018, p. 93).

Staff

Professionals should be hired who meet the professional qualifications and who are able to communicate proficiently in the mode used by the student. Determination of staff for provision of services to students who are deaf and hard of hearing must be based on each student's individual needs. Direct service staff may include the following professionals:

- teacher endorsed in Special Education Deaf and Hard of Hearing PreK-12 (TODHH)
- early childhood special educator; and
- general education teacher.

Having qualified support staff is an integral part of a program for a student who is deaf or hard of hearing. This support staff may include the following professionals:

- assistive technology specialist;
- behavior specialist;
- Cued Speech/Cued Language transliterator;
- early intervention service provider;
- educational audiologist;
- educational interpreter/transliterator;
- English as a Second Language (ESL) teacher;
- instructional paraprofessional;
- itinerant teacher;
- listening and spoken language specialist;
- notetaker;
- occupational therapist;
- physical therapist;
- professionals who are deaf and hard of hearing;
- school counselor;
- school psychologist;
- school social worker;
- special education program coordinator/supervisor;
- special education teacher (other than the TODHH);
- speech-language pathologist;
- spoken language facilitator;
- tutor;
- vocational education teacher; and
- vocational rehabilitation specialist.

Collaboration

Creating properly integrated programs for students who are deaf and hard of hearing requires careful scheduling and the development of collaborative relationships among professionals to provide appropriate student, parent and staff supports. Regular meetings between the TODHH, general education teacher, speech-language pathologist and educational interpreter to share information and to plan for upcoming instructional units are highly recommended. Specialized content vocabulary and concepts may need to be pre-taught by the TODHH and/or the speech-language pathologist. The interpreter may need to preview audio-visual materials and/or prepare signs ahead of time for technical vocabulary in lessons. The TODHH, general education teacher and other team members should discuss differentiated instructional strategies that may be used to make lessons more effective for students who are deaf and hard of hearing. Information on implementing effective co-teaching strategies may be found by accessing the Virginia Department of Education Training and Technical Assistance Centers (T/TAC).

Related Services

Educational Interpreters

The term interpreting services, in this section as in the Virginia Regulations, is used with respect to children who are deaf and hard of hearing. Educational interpreters are professionals who play an important role in facilitating communication between some students who are deaf and hard of hearing and their teachers and peers. Students who are deaf and hard of hearing are entitled to access the same general education curriculum as their hearing peers. It is essential that the student possesses the adequate cognitive, linguistic, and academic readiness skills that will allow them to benefit from interpreter services. In some cases, direct instruction from a teacher of the deaf and hard of hearing (TODHH) should be given priority over instruction delivered through use of an educational interpreter.

Educational interpreting can occur anywhere that a student is engaged in learning (e.g., classroom, lab, gym, athletic field, stage, shop). Access to the social communication that occurs in educational settings (e.g., recess, lunch, extracurricular activities) is also important to all students, including those who may access the information through their interpreters. Allowing students who are deaf and hard of hearing to access the general educational curriculum is a right guaranteed by the *Americans with Disabilities Act of 1990* (ADA) and the IDEA 2004. Interpreting services accommodate the communication needs for students as determined by the IEP Team. In the general education setting, the educational interpreter is often the only communication/language model for a student who is deaf or hard of hearing.
The term *interpreting* is commonly used to represent the following range of services:

- **Sign language interpreters** improve communication by signing the spoken language of hearing persons and voicing the sign language of the person who is deaf or hard of hearing. This voice-to-sign and sign-to-voice interpreting crosses two languages, generally English and American Sign Language (ASL).

- **Sign language transliterators** facilitate voice-to-sign and sign-to-voice communication while working within one language, generally spoken and signed English.
- **Cued Language transliterators** add cues to the restated spoken message for a person who is deaf or hard of hearing and restate or voice the message of the person who is deaf or hard of hearing and who may cue when he or she talks. (Refer to Appendix C)
- **Oral transliterators** inaudibly repeat what a hearing person says in a manner that enables the person who is deaf or hard of hearing to understand it; they may also voice what the person who is deaf or hard of hearing says for hearing persons.

An interpreting professional may be qualified in one or more of these areas.

Team Interpreting

In intense communication settings, interpreters may need to work in pairs or on teams. Examples of settings during which more than one interpreter is needed include:

- block scheduled classes;
- classes in which language is highly technical;
- classes with multiple students who are deaf and hard of hearing;
- extended oral reading;
- group interactions;
- lectures; and
- videotape presentations.

Educational interpreters are at risk of physical injury associated with repetitive movements. Error rates also tend to increase when interpreters are fatigued. Scheduling interpreters to work in teams may help to reduce physical and cognitive stress in these situations.

Other Roles

Sometimes educational interpreters are asked to perform activities in the school setting such as teaching sign language, sponsoring a sign language club, or acting as instructional assistants for students who have special medical, orthopedic, or behavioral needs. These additional assignments are only appropriate in the following situations:

- when the situations do not remove interpreters from their primary responsibilities;
- when the assignment does not conflict with the Code of Professional Conduct; and
- when interpreters are qualified to serve in these additional roles.

Careful deliberation of these "other roles" is necessary in ensuring that the interpreter's primary role is not compromised.

Sometimes interpreters may have down time that occurs due to student absence or schedule changes. This time may be used to prepare for upcoming instruction and classroom activities by previewing and practicing the signs for vocabulary and concepts. While reassigned time is just as reasonable for educational interpreters as it is for other members of the school team. Important distinctions need to be made between down time that occurs during testing or seatwork. Serving as a student's instructor during seatwork is typically not appropriate for an interpreter yet being

available and vigilant to interpret a student's questions during a test or seatwork is appropriate. Serving as a student's disciplinarian or parent liaison is also not appropriate for an educational interpreter.

Qualifications

The 2009 Virginia Regulations, at 8 VAC 20-81-40 E 3 and 4, provide for qualification requirements, effective 2010, for personnel providing interpreting services for students who are deaf and hard of hearing:

- Personnel providing educational interpreting services for children using sign language must hold:
  - a valid Virginia Quality Assurance Screening (VQAS) Level III; or
  - a passing score on the Educational Interpreter Performance Assessment (EIPA) Written Test along with a minimum of a Level 3.5 on the EIPA Performance Test or any other state qualification or national certification (excluding Certificate of Deaf Interpretation) recognized by the Virginia Department for the Deaf and Hard of Hearing (VDDHH) as equivalent to or exceeding the VQAS Level III.
  - Under no circumstances shall school divisions or private special education schools hire interpreters who hold qualifications below a VQAS Level II, EIPA Level 3.0 or the equivalent from another state.
  - Interpreters hired with a VQAS Level II, EIPA Level 3.0 or the equivalent will have two years from the date of hire to reach the required qualifications.
- Personnel providing educational interpreting services for children using Cued Speech must have a valid Virginia Quality Assurance Screening Level III for Cued Speech or hold a national Transliteration Skills Certificate from the Testing, Evaluation and Certification Unit (TEC Unit) or equivalent recognized by the Virginia Department for the Deaf and Hard of Hearing.
  - Under no circumstances must school divisions or private special education schools hire educational interpreters to provide Cued Speech services who hold qualifications below a VQAS Level I or the equivalent from another state.
  - Educational interpreters to provide Cued Speech hired with a VQAS Level I or the equivalent have three years from the date of hire to reach the required qualifications.
- Personnel providing educational interpreting services for children requiring oral interpreting must hold a national Oral Transliteration Certificate (OTC) or equivalent recognized by VDDHH.

For a child who is not deaf or hard of hearing, but for whom sign language services are specified in the IEP to address expressive or receptive language needs, the sign language services must be provided by an individual meeting the requirements determined appropriate by the school division.

Many educational interpreters have not only met the state's qualification requirements but also have coursework, certificates, or degrees in interpreting. They are skilled in the language and vocabulary of academics as well as in abstract thinking and have a working knowledge of the developmental changes that occur in students in kindergarten through grade 12. It is essential for

educational interpreters to participate in ongoing professional development in order to continue acquiring and maintaining skills that are necessary to effectively support the communication needs of students who are deaf and hard of hearing. Ongoing professional development is also required to maintain national certification for interpreters and cued language transliterators. Interpreters must retake the VQAS Performance Assessment every three years to maintain a valid VQAS level. As best practice, it is recommended that interpreters participate in a minimum of 20 hours of relevant professional development activities per year. (Refer to Appendix H)

Recruiting and retaining qualified interpreters can be difficult, particularly in rural areas where interpreters are scarce, and possibly in urban areas where community jobs are more available. Strategies to attract and retain interpreters include the following:

- valuing the educational and communication differences of students who benefit from interpreting services;
- developing a job description that includes all job responsibilities and expectations (e.g., interpreter's responsibilities when the student is absent);
- treating interpreters as members of the educational community;
- learning interpreters' ethical codes and working with the interpreters to avoid conflicts;
- working with interpreters for schedules that reduce physical stress that can lead to repetitive use injuries;
- including interpreters as participants in IEP meetings and instructional deliberations that focus on communication;
- fostering good working relationships with teachers by providing professional development regarding the effects of rapid oral reading rates, positioning and lighting issues, multiple speaker demands, and technical vocabulary demands;
- encouraging professional development for interpreters with supportive services at the school and encouraging professional growth outside of the school setting;
- knowing Virginia's qualification requirements for interpreters and working collaboratively with interpreters, students, parents, teachers, and administrators to meet the qualifications; and
- offering a salary scale with increases related to increased levels, certifications, and degrees that may be commensurate with teachers and/or other related service professionals when the qualifications are met.

(Refer to Appendix H for information on recruiting qualified educational interpreters, training programs and additional resources.)

Spoken Language Facilitators

A student who has a hearing loss may be able to access information and participate within the general education classroom using personal hearing aids, cochlear implants and/or FM devices and not require an educational interpreter but may still need some communication support. This support may be provided in several ways, including the use of an oral transliterator or a spoken language facilitator. The role of spoken language facilitator may be performed by a paraprofessional (teaching assistant) or a professional staff member (teacher, educational interpreter). Caution should be taken in having the teacher of the deaf and hard of hearing

(TODHH) in this role as this could impact the relationship between the student and the general education classroom teacher. A spoken language facilitator may provide support by:

- ensuring the function of sound field and/or personal FM systems in the classroom;
- assisting the student who is deaf or hard of hearing in locating the source of sound (speaker/teacher) and in maintaining preferential seating during a lesson;
- providing prompts to students to self-advocate for their hearing needs (e.g., a student who does not hear a classmate's answer should ask for a repetition);
- repeating and/or rephrasing spoken messages and/or putting spoken language in written/typed form as needed;
- gathering materials for previewing vocabulary, concepts and underlying language structures that may need to be pre-taught;
- supporting IEP goals and objectives that exist in the general education classroom by collecting data (e.g., "Student's speech will be understood by peers and adults when given a visual cue in 4 out of 5 consecutive incidents." or "The student will communicate using a complete sentence at least 2 times within a class period."); and/or
- encouraging hearing peers and adults to use normal speech and language when interacting with the student who is deaf or hard of hearing in order to model appropriate spoken language behavior.

These supports by a spoken language facilitator may help the student learn how to function more independently in the general education setting.

Notetakers

Notetakers may be especially helpful to students who are deaf and hard of hearing in upper elementary, middle, and high school general education programs. The IEP Team should determine if there is a need for a notetaker. The need should be noted in the student's IEP.
A notetaker provides notetaking services in classroom settings where the student who is deaf or hard of hearing must sustain visual attention to the instructor, educational interpreter, or to audio-visual materials. While hearing students can listen to instruction and take notes simultaneously, students who are deaf and hard of hearing cannot usually watch an interpreter, speechread a teacher, or view audio-visuals and take notes at the same time. Notetakers require training and orientation for their roles and responsibilities to students who are deaf and hard of hearing and for the specific setting(s) in which they will be working. Training regarding the role of the notetaker may also be provided to teachers and other staff members to encourage cooperation and collaboration among all personnel working with the student.
Notetakers may be:

- volunteers (e.g., classmates, older students following school policy regarding need for parental permission);
- paraprofessionals (e.g., tutors, assistants); or
- professional staff (e.g., teachers, educational interpreters, CART reporters).
- Additionally, teachers may consider providing copies of notes to students.

It is recommended that notetakers have the following characteristics:

- competence in the mechanics of notetaking;
- knowledge of lesson/course content;

- ability to work cooperatively with classroom teachers;
- willingness to take direction;
- understanding of the impact of the hearing loss on the student's learning and literacy level; and
- willingness to perform ethically, nurture independence, and honor confidentiality of the student.

(Online training for notetakers, appropriate especially for notetakers at the high school level is available through the National Deaf Center.

Substitute Personnel

School divisions are encouraged to recruit and maintain a pool of qualified substitute personnel for absent teachers of the deaf and hard of hearing (TODHH) and educational interpreters in advance of need. This may present a challenge; however, the assignment of substitute TODHH and educational interpreters who are qualified should be priorities in the event of absences. Substitute personnel involved with students who are deaf and hard of hearing should be informed of the specialized communication needs and accommodations for the students.

The Virginia Department for the Deaf and Hard of Hearing (VDDHH) Interpreter Services Coordinator (800-552-7917 voice/TTY) may be contacted to obtain a registry of interpreters in Virginia who may be contacted as substitute interpreters. Interpreter rates may depend on the amount of advance notice given for scheduling. A minimum of one week's notice is recommended. Use of video remote interpreters may be considered.

Professional Development

Orientation and continuing education of direct and support staff serving students who are deaf and hard of hearing is necessary to ensure successful educational experiences. VDOE's Office of Special Education and Student Services and the Virginia Network of Consultants (VNOC) can recommend resources and presenters to conduct professional development.

In 2004, the VDOE, in collaboration with the Virginia Department of Health, and the Partnership for People with Disabilities at Virginia Commonwealth University established the Virginia Network of Consultants for Professionals Working with Children Who are Deaf and Hard of Hearing (VNOC). The purpose of VNOC is to provide consultant services and training to professionals who work with students who are deaf and hard of hearing in school divisions and state operated programs in Virginia. The VNOC is designed to promote and enhance educational services for individual students or provide needed training for personnel. The VNOC specialists, selected to represent all regions of the Commonwealth, have expertise in one or more areas as they relate to children who are deaf and hard of hearing, including:

- amplification needs;
- assessment;

- assistive Technology;
- behavior Interventions;
- communication methodologies;
- instructional strategies;
- meeting the needs of students with listening devices including cochlear implants; and
- sign language proficiency and educational interpreting.

For more information about VNOC services, contact the VNOC Coordinator, Technical Assistance Center for Children Who are Deaf and Hard of Hearing, Partnership for People with Disabilities at (804) 828-1342. (Refer to Appendix A)

Teacher Licensure

The Virginia teacher licensure requirements for the endorsement in Special Education Deaf and Hard of Hearing PreK-12 are available at the VDOE website. (Refer to Licensure Regulations for School Personnel)

TECHNOLOGY

Hearing Aids

Children with hearing loss typically use amplification devices for both educational and personal use. Individuals requiring hearing aids are evaluated and fitted by licensed audiologists following examination by an otolaryngologist or an otologist (ear, nose and throat physician). Individuals younger than 18 years of age require medical clearance from an otolaryngologist/otologist before a hearing aid can be recommended, fitted and purchased. Virginia law requires that the purchaser of a hearing aid be offered a 30-day trial period. Prior to the end of this period, the hearing aid may be returned, and the purchaser may recoup the cost of the hearing aid minus costs associated with fitting, evaluation and reasonable return charges. Hearing aid manufacturers offer warranty periods on their products. In addition, loss and replacement insurance usually can be purchased. Dispensing audiologists typically sell hearing aids manufactured by several different companies. Children with hearing loss are fitted with hearing aids which meet specific criteria, including appropriate gain, sound pressure levels, and frequency specifications. Additionally, fitting decisions involve choosing digital circuit options. Styles of hearing aids include:

- Behind-the-ear (BTE);
- Receiver in the Canal (RIC);
- In-the-ear (ITE); and
- Bone conduction: headband oscillator or bone anchored hearing aid (BAHA).

Fitting choices are determined by the age of the child, type and degree of hearing loss, cosmetic concerns, ear anomalies, cost, as well as fitting requirements. Hearing aids may be worn either monaurally (one ear) or binaurally (two ears) depending on the amplification needs of the child.

They can be fit on individuals whose hearing losses range from mild to profound. (Refer to Appendix B)

There is insufficient data regarding the benefits of amplification for individuals with Auditory Neuropathy Spectrum Disorder (ANSD) to recommend the use vs. non-use of hearing aids. Students with auditory neuropathy should be evaluated and treated on a case-by-case basis.

Knowledge regarding the ability of the child to access speech auditorily with his or her hearing aid(s) is critical for educational planning and therapy goals. This ability should be detailed in an audiological evaluation.

A standard behavioral audiometric battery of tests may be comprised of:

- aided (i.e., using hearing aids/cochlear implants) and unaided pure tone responses across the frequency range;
- bone conduction responses;
- maximum comfort levels;
- speech reception and speech recognition scores, both aided and unaided; and
- tests for other complicating medical concerns such as outer or middle ear dysfunction.

Additional electrophysiological tests may be performed to confirm or support behavioral audiometric test results.

Special education law and regulations provide for routine checking of hearing aids. School divisions must ensure that hearing aids worn in school by children who are deaf and hard of hearing are functioning properly (34 C.F.R. § 300.113(a); 8 VAC 20-81-100 E). Regularly scheduled in-service training for school personnel is recommended to ensure consistent equipment use and functioning. (Refer to Appendix D)

Cochlear Implants

Students with severe-profound sensorineural hearing loss and those with a diagnosis of auditory neuropathy spectrum disorder (ANSD) may be considered as candidates for cochlear implantation. A cochlear implant is a surgically implanted device which electrically stimulates the neural fibers of the inner ear or cochlea. A cochlear implant does not restore normal hearing, but it is designed to provide sound detection that includes the speech range. Sounds are picked up by a microphone, coded by a speech processor and delivered to the implanted electrode array via a transmitter and receiver. External parts of a cochlear implant include the speech processor, transmitter, microphone and power source (batteries). The internal parts include the electrode array implanted in the cochlea and a receiver.

Children are evaluated for candidacy for cochlear implants at cochlear implant centers by assessing their auditory acuity, middle ear function, speech perception with hearing aids, medical history and developmental/cognitive status. Cochlear implants are usually not approved for children under 12 months of age. There are currently three manufacturers of cochlear implants.

Information can be obtained about cochlear implants by searching the websites of each manufacturer:

- Med-El
- Advanced Bionics
- Cochlear

Cochlear implant centers associated with three major medical centers in Virginia are the University of Virginia Health Systems (Charlottesville), Virginia Commonwealth University Medical Center (Richmond) and Children's Hospital of The King's Daughters (Norfolk).

As with hearing aids, knowledge of the auditory benefit derived from a cochlear implant provides important information necessary for determining educational goals and objectives. Audiological information important for educational purposes includes pure tone and speech responses with the implant as well as information about mapping, mapping changes and coding strategies. There should be regular communication between the family and all professionals involved in the student's aural habilitation. Family follow-up with the cochlear implant center for device maintenance and upgrades, as well as map adjustment, is an ongoing expectation of the implant team throughout the student's school career. Necessary release of information forms should be on file to facilitate communication between the cochlear implant center and school division.

For a student with a surgically implanted medical device who is receiving special education and related services, IDEA 2004 and its implementing federal regulations provide for routine checking of external components of surgically implanted medical devices. However, a school division is not responsible for the post-surgical maintenance, programming, or replacement of the medical device that has been surgically implanted (or of an external component of the surgically implanted medical device) [34 C.F.R. § 300.113(b)(2); 8 VAC 20-81-100 E].

Based on the IDEA 2004 and its implementing federal regulations, school divisions are not responsible for the optimization, maintenance or replacement of surgically implanted devices [34 C.F.R. § 300.34(b)(1); 8 VAC 20-81-10]. However, they should do routine checking of the external components to ascertain if the devices are functioning properly. (Refer to Appendix D) Thus, school divisions may replace batteries during the school day or have capable students replace their batteries in a cochlear implant speech processor to the same extent that they would for hearing aids.

Auditory Brainstem Implants

Auditory brainstem implants (ABI) may be used by individuals with specialized medical conditions, such as neurofibromatosis. An ABI is a device which bypasses the cochlea and auditory nerve to transmit sound directly to the brainstem. The device provides access to sound; however, the prognosis for ABI users to understand speech varies from that of individuals who use cochlear implants or hearing aids.

Assistive Listening Devices

In addition to personal hearing aids and cochlear implants, students with hearing loss sometimes benefit from assistive listening devices, also known as hearing assistive technology (HAT), to supplement and support their personal amplification, particularly in the classroom setting. Classrooms with hard surfaces, uncarpeted floors, windows without curtains, student noise and teachers who are positioned at less than optimal distances from students who are deaf and hard of hearing comprise a challenging listening environment. (Refer to Facilities and Spaces)

The FM systems may reduce some of the difficulties that a student who is deaf or hard of hearing faces in the classroom setting by improving the signal-to-noise ratio. Typical systems require the teacher/speaker to wear a small transmitter with a microphone, while the student may use one of several devices which receive the spoken input wirelessly. This enables the student to hear the teacher's voice at a consistent volume regardless of the teacher's location in the classroom. FM systems and amplification options include:

- Personal/Body worn:
  - personal audio system for students who do not use ear level amplifications (e.g., Walkman style with earbuds, ear level receiver with no amplified gain).
  - Ear Level FM system: A unit worn in lieu of a student's personal hearing aid and functions as both an FM and personal amplification device. Individual units must be adjusted to the student's hearing loss in the same way that a hearing aid is fitted. An audiologist should determine the settings for units in order to ensure appropriate fit.
  - Miniature FM receiver: An adaptor ("shoe/boot") directly connected to a hearing aid, cochlear implant or BAHA.
  - Neck Loop: A system that requires use of the telecoil in the student's device.
- Classroom Amplification Distribution Systems: These systems, also called sound field systems, are composed of speakers of various types (ceiling mounted, wall mounted, or desktop) along with a transmitter and microphone. The voice of the instructor is amplified throughout the classroom or to an individual speaker on a student's desk. Typically, these systems are used with students who have less severe hearing losses, unilateral hearing losses, cochlear implants or auditory processing disorders. Classroom amplification systems are available using specific FM frequencies, Roger technology, or infrared technology.

Manufacturers' representatives offer significant support to school divisions in purchasing and maintaining FM equipment. Annual inspection, repair and electroacoustic analysis of FM systems typically are provided through service contracts or on a parts and labor basis by manufacturers. School divisions should consult with an educational audiologist when considering purchasing FM devices.

Checking Assistive Listening Devices

Personal hearing instruments and FM equipment in the school setting require ongoing monitoring. School staff and the student who is deaf or hard of hearing, as appropriate, with the support of an educational audiologist, should be instructed in checking hearing aids, cochlear implants and FM systems to ensure that they are functioning properly. State and federal

regulations require that amplification devices used during the school day function properly. Best practice dictates that assistive listening devices be checked daily. (Refer to Appendix D)

Assistive Technology

Students who are deaf and hard of hearing may benefit from the use of additional assistive technology which supports the classroom learning environment. The use of assistive technology should meet the specific needs of a student as determined by the IEP Team. In addition to the Assistive Listening Devices (ALD) described above, technology may include:

- **Signaling/Alerting Devices:** Alarm clocks, smoke/fire alarms, telephone and doorbells with visual signaling are designed to alert individuals who are deaf or hard of hearing. These devices promote independent living skills and safety in the school and home environment.
- **Captioning:** Captions on videos generally available via video streaming, DVDs, television programming and movies are usually presented via closed or open captions and subtitles. Captions display readable text while audible speech and/or background noise environment is presented. Free educational media are available for loan in a wide range of content areas and for all grade levels through the Described and Captioned Media Program (DCMP).
- **Real Time Captioning:** Some students with hearing loss may benefit from the use of real time captioning in the classroom. Real time captions are created as instruction, dialogue or conversation takes place. Common approaches to provide captioning with different technologies include a Communication Access Real Time (CART) reporter, a TypeWell captioner, or by a C-Print captionist. Each may be provided by someone in the classroom or from a remote location. The student is able to read text concurrently as the teacher lectures and students speak. A trained individual transcribes classroom lecture by keying it into a computer which is received by the student's computer. The availability of this technology varies and requires that the student be able to read sufficiently well to benefit from the service.
- **Specialized Telecommunication Equipment:** The general public uses cell phone, video technology and texting widely. Specialized equipment is available for persons who are deaf and hard of hearing. Videophones allow students who are deaf and hard of hearing to make calls to other videophone users or use the Video Relay Service (VRS) to connect with users without a videophone. Amplified telephones amplify the telephone signal for students who are hard of hearing. Captioned telephones display the spoken word in text to allow students to read what the other caller is saying and then text or speak for themselves. There are other types of equipment that may accommodate students who are deaf and hard of hearing. Students may be eligible to apply for specialized telecommunication equipment through the Virginia Department for the Deaf and Hard of Hearing.
- **Communication Apps:** Advances in communication technology continue to expand options for video calls, text messaging and more. Smart phone apps such as Real-Time Text (RTT) allow students who are deaf and hard of hearing to text with other smart phone users with a similar RTT app as well as contact emergency centers (9-1-1). Information on this and other apps is available through the Virginia Department for the Deaf and Hard of Hearing.

- **Relay Services**: Relay services provide access to telecommunications and enable students to make telephone calls. The three types of relay services available are the Telecommunication Relay Service (TRS), Video Relay Service (VRS) and the Captioned Telephone Service (CTS). Calls may be made through analog or digital telephones, specialized telecommunication equipment, smart phones, computers with web cameras, videophones and more. Students who are deaf and hard of hearing may communicate with individuals who are hearing through sign language interpreters or speak for themselves and reading captions. Videophone, smart phone cameras and web cameras allow individuals to see one another, enabling direct communication via sign language, speech reading, visual cues and other communication methodologies. Videophones or related software and smartphone apps may be obtained for free from the Video Relay Service providers. Information about relay service options is available through the Virginia Department for the Deaf and Hard of Hearing and the Federal Communication Commission.
- **Video Remote Interpreting (VRI)**: VRI may be considered if an on-site interpreter is not available. A two-way internet video connection allows the participants to see and hear the interpreter. The interpreter, in turn, can see the participants who are signing and hear participants who are voicing. A videoconference system, computer with webcam or a videophone and a high-speed broadband internet connection are required.

In addition to the assistive technology devices and services listed above, the IEP Team may determine other appropriate assistive technology as educationally necessary for the individual student. Federal and state regulations define an assistive technology device as "any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability." These regulations add that the term "does not include a medical device that is surgically implanted or the replacement of such device" (34 C.F.R. § 300.5; 8 VAC 20-81-10). Current information on assistive technology may be found at the Virginia Assistive Technology System through the Virginia Department for the Deaf and Hard of Hearing (VDDHH), and through the Virginia Department of Education's Training and Technical Assistance Centers (T/TAC).

CURRICULUM AND INSTRUCTION

Instruction of students who are deaf and hard of hearing should include consideration of the following:

- access to the general curriculum with appropriate accommodations and modifications;
- facilities that are acoustically and visually appropriate;
- instructional strategies that are effective with students who are deaf and hard of hearing;
- special literacy needs;
- expanded curriculum options; and
- a continuum of transition services.

Access to the General Curriculum

It is expected that all students enrolled in public school divisions of the Commonwealth of Virginia receive instruction to achieve competency in English, mathematics, science, history/social science, technology, the fine arts, foreign language, health/physical education, and driver's education. This includes students with disabilities. The Virginia Standards of Learning (SOL) provide a framework in the four core areas of English, mathematics, science and history/social science, as well as other courses, and detail the specific knowledge and skills necessary to meet these standards.

Students who are deaf and hard of hearing must have access to the general education curriculum and receive instruction in the same standards-based curricular content as their hearing peers. The IEP delineates the skills and supports that a student needs to access the general education curriculum.

For a student who is deaf or hard of hearing, communication and linguistic needs should be given primary consideration when developing the IEP. This includes communication with peers and proficiency of staff in the student's communication mode and language. The IEP of a student who is deaf or hard of hearing should address:

- how the student presently communicates (mode and skill level);
- goals and objectives for receptive and expressive language development;
- supports to accommodate communication; and
- access to the instructional language of the classroom.

Facilities and Spaces

The U.S. Department of Justice issued revised regulations for Titles II and III of the *Americans with Disabilities Act of 1990* (ADA) in 2010. Regulation guidance that applies to the Standards is available in the document, Guidance on the 2010 ADA Standards for Accessible Design. In addition to the ADA regulations, consideration for the visual and auditory needs of students who are deaf and hard of hearing is important.

Acoustic and Visual Characteristics

"A well-managed environment is essential to ensure accessibility to communication and instruction as well as participation in school activities for all students who are deaf or hard of hearing" (NASDSE, 2018, p. 40). Attention must be given to the acoustic and visual characteristics of classrooms where students who are deaf and hard of hearing receive instruction.

Hearing aids and cochlear implants may increase a student's access not only to speech, but all sounds, including ambient noise such as sounds from heating and air conditioning systems, computers, projectors or other electronics, moving furniture, chairs scraping tiled floors, shuffling feet, movement of books, pages turning, and noise from hallways, playgrounds an

outside traffic. Noise, reverberation levels and extraneous or interfering sounds should be controlled in order to minimize interference with a student's ability to access auditory input for communication and learning. Students who are deaf and hard of hearing may have to use considerably more energy to maintain focus and attention on instruction in the presence of competing environmental sounds. Noise reduction can be achieved in several ways. Schools may consider the following:

- Locate classrooms for students who are deaf and hard of hearing in a quiet area of the building away from external noise sources (e.g., street traffic, playgrounds, gymnasium and cafeteria).
- Avoid open classroom settings or learning areas without walls in which more than one class shares space.
- Install sound absorbing material such as acoustical ceiling tiles on classroom ceiling.
- Install carpeting with padding in the classroom (1/4-inch pile reduces noise yet permits wheelchair mobility).
- Ensure that heating/ventilation systems are operating properly; heating/cooling ducts may be lined with acoustical materials or baffles.
- Replace fluorescent lighting systems regularly to avoid buzzing.
- Lubricate fans and electrical motors or otherwise ensure they operate quietly.
- Place sound absorbing material such as acoustic paneling or cork board on classroom walls. Avoid painting acoustic tiles and panels or covering panels with non-sound absorbing materials such as posters. This reduces or may prevent sound reduction entirely.
- Hang window treatments such as acoustical drapes or acoustically treated Venetian blinds over windows to absorb sound.
- Place pads/rubber tips on chair, table and desk legs to reduce noise. Tennis balls on the bottoms of chair and desk legs are effective noise reducers, but caution must be taken with regard to latex and other allergies.

In addition, students who are deaf and hard of hearing may rely on vision extensively in the educational setting. Therefore, good lighting is essential. Visual considerations include:

- non-glare lighting;
- student seating so light is on the speaker and/or interpreter to whom they are attending;
- solid or uncluttered backgrounds to make speechreading or watching signs or cues easier to watch;
- special lighting on a speaker or interpreter when room is darkened for video;
- high contrast and large print on text that is projected for instruction;
- use of graphics, pictures to support lesson concepts;
- visual displays and message boards for announcements; and
- curtains/blinds to reduce glare from outside sources.

Instructional Strategies and Methodologies

In general, the instructional strategies that lead to the academic success of students who are deaf and hard of hearing are comparable to those used with all students. As with all students:

- A lesson should begin with a focus activity that immediately engages the students in learning. This activity should spark the interest of the student and create a desire to attend to the lesson.
- The measurable, behavioral objective of the lesson related to the Standards of Learning (SOL) and/or IEP goal should be clearly stated to students.
- All new knowledge should be attached to prior knowledge.
- Development of vocabulary should occur before and during every lesson.
- The instructional procedure should include a logical sequence of steps that includes provision of demonstration/modeling of the concept.
- Opportunities should be given for guided practice and independent practice of the concept, aligned with the evaluation format that will be used to assess mastery of the concept. The teacher should give immediate corrective feedback.
- Lessons should conclude with a summary of the concept, by the students whenever possible.
- Frequent review and practice of mastered material including opportunities for real world or authentic experiences to synthesize material is recommended.

While the above strategies are used for all students, consideration of the unique needs of students who are deaf and hard of hearing should guide instruction.

Incidental Learning

Studies in developmental psychology show that much of what young children know, they learned incidentally. Examples of incidental learning include overhearing conversations of others and listening to television and radio and more. Students who are deaf and hard of hearing often miss the incidental learning opportunities around them because they cannot overhear intelligible speech well due to their difficulty in hearing. This can affect "classroom performance because distance hearing is necessary for the passive/casual/incidental acquisition and use of spoken language" (Cole and Flexer, 2008, p. 120). For this reason, many concepts and words not taught formally to hearing students must be taught explicitly to students who are deaf and hard of hearing.

Developing Background Knowledge

All conceptual knowledge is organized into schemata, memory structures that are the framework by which knowledge and experiences are interrelated. For new information to be understood, schema from the child's memory must be activated (Schirmer, 2000). While hearing children often come to school with intact background knowledge (schemata) onto which new knowledge can build, many children who are deaf and hard of hearing do not. Without adequate background knowledge, new concepts cannot be adequately assimilated. In order to promote academic success, it is critical to develop the background knowledge of a student who is deaf and hard of hearing before new knowledge is presented. Some ways to build background knowledge include:

- group sharing of experiences;
- family involvement;
- field trips;
- video presentations;

- computer software;
- internet searches;
- direct instruction;
- hands-on activities; and
- role-playing.

Strategies for ongoing language development must be included in every instructional lesson for students who are deaf and hard of hearing.

Family Involvement

Family involvement is an important part of the academic program for all children and is especially important for the family of a student who is deaf or hard of hearing. If families learn to communicate effectively with their children, parents may expose them to experiences that can build the background knowledge necessary to support academic growth and may eliminate the gaps resulting from lack of exposure to incidental language. School divisions should consider whether family members need instruction in the communication method of their choice. Communication competence within the family is an asset for building strong vocabulary skills and promoting academic success. "IEP Teams should consider parent counseling and training as a related service to assist a child in befitting from special education when the parents need help understanding the special needs of their child, need information about child development, and need assistance in acquiring the necessary skills to assist them in supporting the implementation of the IEP" (NASDSE, 2018, p. 20). (Refer to Family Education and Intervention)

Direct Instruction

Direct instruction of a concept should include a multi-sensory approach that provides hands-on involvement for students who are deaf and hard of hearing with many examples and non-examples. Concepts can be mastered if they become meaningful to students and relevant to their lives. Students who are deaf and hard of hearing need the opportunity to practice concepts through self-expression, verbal (or signing) rehearsal, and refinement of ideas (Stewart and Kluwin, 2001). Appropriate pacing of instruction, monitoring of student responses for accuracy, and ongoing corrective feedback are recommended to improve concept mastery.

Effective instruction includes a visual representation of the concept that can be paired with verbal and/or signed explanation by students. Giving students access to appropriate online and other technologies, will enable them to find visual resources. As many as 40 percent of children with a hearing loss have an additional disability. (Paul and Quigley, 1990; Schildroth and Hotto, 1993). To meet the needs of a student who is deaf and hard of hearing with additional cognitive challenges, a teacher should:

- control the difficulty or processing demands of given tasks;
- sequence the steps of learning in a concrete manner;
- segment learning in obtainable chunks;
- provide appropriate drill and repetition;
- practice and review;
- use direct questioning and response; and

- seek help from other professionals with expertise in the additional disability.

Differentiated Instruction

Both inclusive and self-contained classrooms for students who are deaf and hard of hearing may include students with several different ability levels (i.e., language, cognition and/or academic). Therefore, teachers must be equipped to provide differentiated instruction to meet the needs of a wide range of students while making optimal use of instructional time. Differentiated instruction is student-centered, provides quality instruction through a mix of whole class, group and individual instruction and offers multiple approaches to content, process and product (Tomlinson, 2001).

Instructional strategies in English, mathematics, and history/social science are available for special populations, including students who are deaf and hard of hearing at the TTAC Online website. (Refer to Appendix I and Appendix J)

Authentic Assessment

Ongoing authentic assessments should be part of all instruction for students who are deaf and hard of hearing. While standardized tests provide valuable information, the information gathered by the teacher about the student's performance in class should guide the educational process. Monitoring of student behavior, student responses and overall student performance should be an ongoing process throughout all lessons. Teachers should gather information about a student's abilities, interests, challenges, achievement and knowledge base and use this information to plan appropriate instructional strategies to match individual learning style, encourage a student to work to potential, and promote mastery of concepts.

Literacy

Language is a prerequisite for literacy. Ideally, students enter the school setting from language-rich environments in which there is early and consistent exposure to accessible language and to print. Without early language learning, children who are deaf and hard of hearing may begin school with limited language abilities. Literacy learning and the development of reading and writing skills is often challenging for students who are deaf and hard of hearing.

Many researchers have concluded that there is a strong relationship between language, regardless of communication methodology (e.g., ASL, Cued Speech, Listening and Spoken Language) and the development of literacy skills (French, M., 1999; Perfetti, C. and Sandak, R., 2000; Musselman, 2000; Izzo, 2002; Luetke-Stahlman, & Nielson, 2003). A basic tenet of literacy is that to become a reader, one must know the language one is learning to read. Yet, many students who are deaf and hard of hearing are challenged with trying to develop language while simultaneously learning to make sense of print. Consequently, their insufficient development of English language skills is seen in their written language.

It is important to consider a student's strengths and needs through baseline and ongoing assessment of language and literacy skills. Suggested literacy assessments include:

- adaptations of baseline, benchmark and checklist tools available from published developmental reading programs;
- analysis of observed/videotaped sessions of students reading aloud/signing (Note: No studies were found to compare fluency assessments of oral readers with those of signers, but many teachers of students who are deaf and hard of hearing believe that comparable measures can be made with signing students.); and
- use of running records and miscue analysis.

The National Reading Panel (2000) identified the five essential components of reading as:

- phonemic awareness;
- phonics;
- fluency;
- vocabulary; and
- comprehension.

Students who use hearing aids and/or cochlear implants and who have full access to the acoustic properties necessary for auditory-based phonemic awareness and understanding of phonics may utilize the same literacy teaching strategies and hierarchy as are used with students who have typical hearing acuity. Development of phonemic awareness and instruction in phonics using multi-sensory/visual-gestural approaches should be included in the literacy program of students who are deaf and hard of hearing and do not have full access to acoustic properties necessary for auditory-based phonemic awareness and phonics. The bilingual-bicultural philosophy of teaching uses ASL to teach and introduces English as a second language through print. Whole language strategies may be used with students in combination with other strategies as well. (Refer to Appendix I and Appendix J)

Comprehension of Text

Integrating vocabulary instruction into every lesson across all content areas is critical for the academic success of students who are deaf and hard of hearing. Areas that may be challenging include words with multiple meanings, figurative language, inferences, metaphors, similes, idioms, and slang, all of which may need to be taught directly. (Refer to Incidental Learning)

Teaching words that have multiple meanings to students who communicate primarily through sign language entails realizing that there are often multiple signs for one English word depending on the context (e.g., *run* has many meanings; different signs are used for: *run for office*, *run a machine*, *run in stockings*, *runny nose*, *water running*, *run-off*, *run around the track*, *give me the run around*, *run down*, *run up a bill*). Conversely, synonyms in English often share the same ASL sign (e.g., signing the words *wonderful*, *terrific*, and *great*).

Figurative language is often challenging to students who are deaf and hard of hearing because the word or phrase does not carry the meaning of the word or words within the phrase. This creates communicative ambiguity (Paul, 1998). For example, the expression, "his eyes were

bigger than his stomach," has a different meaning than the words convey literally. Figurative language, similes, metaphors and slang should be explicitly taught. (Refer to Appendix I)

Reading comprehension requires students to move beyond the words on the page to the underlying meaning that is critical to understanding a story or passage. To be successful at comprehending the underlying meaning of a passage, students must possess:

- linguistic competence at the reading level of the text;
- recognition of the structure of typical text;
- background knowledge of the topic; and
- understanding of the vocabulary within the passage.

Students who are deaf and hard of hearing may have limited background knowledge and limited vocabulary. The ASL has its own syntax and grammar that differs from English and students may not be able to hear English constructs daily. Therefore, students may have difficulty comprehending the meaning of a sentence expressed in English print. This may be compared to a hearing student trying to read and understand a passage in a Russian text after studying the grammar extensively, never hearing the teacher or Russian conversation, but only memorizing the rules of the Russian language. (Refer to Appendix J)

Expanded Core Curriculum

IDEA mandates that students with disabilities have access to the general education curriculum; this includes students who are deaf and hard of hearing. In addition to the "unique academic instruction needs for the general education curriculum, functional needs must also be addressed (NASDSE, 2018, p. 31). A recommended Expanded Core Curriculum for students who are deaf and hard of hearing includes the following components:

- audiology: the student's understanding of their own hearing levels, benefits and limitations of hearing technologies;
- career education: information about and experience with work-study, vocational rehabilitation services, and post-secondary training;
- communication: listening skills development, ASL or other English-based visual communication development, speech development, receptive communication and expressive communication;
- family education: understanding hearing levels, amplification, family and child interactions, communication strategies, education/transition, and resources and technology (Refer to Family Education and Intervention and Family Involvement);
- functional skills for academic success: concept development, comprehension and study and organization;
- self-determination and advocacy: self-determination, community advocacy, community resources and supports, cultural awareness and using interpreters and transliterators;
- social emotional skills: self-awareness (personal qualities), self-management, support networks, personal responsibility, decision making, social awareness, social interaction including conversation skills and conflict resolution; and

- technology: learning about the various types of visual and auditory technologies, how to properly use, maintain and troubleshoot and where to obtain the technology.

The *ASL Content Standards for Kindergarten through Grade 12* have been developed to guide systematic instruction of American Sign Language with students who are deaf and hard of hearing, especially students for whom ASL is their primary language. (Refer to Appendix I, Instructional Resources and Appendix K, Deaf Studies for suggested resources on ASL, Deaf Culture)

In addition, NASDSE recognizes that overall wellness, child safety, school safety and anti-bullying goals may need to be addressed in a student's IEP. "Information is available on these topics from the National Association of School Psychologists and, specifically regarding child safety for children who are deaf or hard of hearing" (NASDSE, 2018, p. 31).

Secondary Transition

During transition planning, the IEP Team begins to address postsecondary plans. In Virginia, transition planning begins at age 14. Prior to the child entering secondary school but not later than the first IEP to be in effect when the child turns 14, or younger if determined appropriate by the IEP Team (34 C.F.R. 300.43 and 34 C.F.R. 300.320b) 8VAC20-81-110. This is the time when it may be necessary to examine the need for college preparatory or career/technical education in a student's program as well as appropriate referrals to adult service programs. Adult service programs are eligibility-based and not entitled, and they often have financial participation criteria. The IEP Team may invite representatives from adult service agencies to an IEP meeting for a student who is deaf or hard of hearing with the written consent of the parent or age of majority student. Appropriate agencies may include:

- Community Services Boards;
- Department for Aging and Rehabilitative Services (DARS);
- Independent Living Centers; and
- Virginia Department for the Deaf and Hard of Hearing (VDDHH).

Pre-Employment Transition Services (Pre-ETS) are the beginning of a continuum of services DARS offers to students with disabilities. Students with disabilities do not need to be a DARS Vocational Rehabilitation (VR) client to receive Pre-ETS but may apply for VR services at any time. Referral to DARS should be made no later than by the meeting for the first IEP to be in effect when the child is three to four years prior to school exit if determined appropriate by the IEP Team. This linkage should be updated annually.

Students who are deaf and hard of hearing should be included in career exploratory programs at the middle school level. Students at the high school level should receive age-appropriate transition assessments. There are regional and local assessment center teams that can complete comprehensive assessments. The IEP Team should decide what assessments are needed by a student and should plan the transition services, including courses of study to effectively develop

the student's interests and abilities. Vocational programming may include the need for services/training in:

- assistive technology (available through VDDHH);
- career exploration (job shadowing, informational interviewing);
- functional mathematics applications;
- functional reading and writing skills for successful transitioning into employment or postsecondary options;
- independent living skills;
- job seeking skills (applications and interviewing skills for summer employment opportunities);
- legal rights and responsibilities as a citizen;
- mobility (transportation, driver's education);
- personal care (grooming, nutrition, first aid and safety);
- self-determination and self-advocacy; and
- social interaction skills between individuals who are deaf and hard of hearing and those who are hearing.

For students who anticipate/possess the academic abilities to attend postsecondary education or to continue in a higher education setting (e.g., community college, university) the college-exploration process should begin during transition planning. This includes a discussion of the differences between secondary and postsecondary expectations about supports that may be accessed as a person with a disability. Visit the Center on Transition Innovations (CTI) for information on Transition Topics including Postsecondary Education and Training.

Transition resources for students who are deaf and hard of hearing and individuals working with them include, but are not limited to the following:

- **The Virginia Department of Education, Department of Special Education and Student Services**: Refer to "Transition Services for Students with Disabilities"
  - **I'm Determined**: a project of the VDOE to help youth with disabilities develop and practice skills associated with self-determined behavior.
  - **Center on Transition Innovations (CTI)**: a VDOE centralized portal for information, resources and more regarding transition of youth with disabilities.
- **The Virginia Department for Aging and Rehabilitative Services** (DARS): DARS has Regional Counselors for the Deaf (RCD) who work with individuals who are deaf and hard of hearing. Under the Workforce Innovation and Opportunity Act (WIOA), DARS works with students with disabilities through Pre-Employment Transitions Services (Pre-ETS) and the Vocational Rehabilitation Program.
- **The Postsecondary Education Rehabilitation Transition Program** (PERT): is a collaborative program of VDOE and DARS that provides vocational/technical training and a continuum of transition services for youth with disabilities. Note: Students must go through a selection process that includes a DARS counselor and PERT staff to be approved for PERT, Wilson Workforce and Rehabilitation Center and/or other DARS sponsored services.

- **Gallaudet University, Discover Your Future**: a one-week program designed for students who are deaf and hard of hearing (grades 10-12) to work on developing their transition plans, identify interests and skills and explore potential careers.
- **National Technical Institute for the Deaf - Explore Your Future** (EYF): a week-long transition education program for high school students who are deaf and hard of hearing and who are entering their senior year in high school.
- **Laurent Clerc National Deaf Education Center, Info to Go/Transition**: The Transition link has several resources including The Gallaudet University Transition Skills Guidelines. This K-12 program document developed at the Clerc Center outlines transition standards and benchmarks for student transitioning from secondary education to post- secondary education or to the workplace.
- **National Deaf Center on Postsecondary Outcomes** (NDC): The NDC is supported by a cooperative agreement with the U.S. Department of Education's Office of Special Education Programs. The NDC provides evidence-based strategies to deaf individuals, family members, and professionals at the local, state, and national levels with the goal of closing education and employment gaps for deaf individuals.
- **Department of Labor, Employment and Training Administration – Career One Stop**
- **Virginia Career View**
- **Virginia Education Wizard**
- **Think College**
- **YouthHood**

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APPENDICES

A. Agencies and Organizations

B. Hearing Loss: Types, Degree, Age of Onset

C. Language and Communication Options

D. Suggested Visual Inspection and Listening Check for Hearing Aids, Cochlear Implants and FM Systems

E. Assessment
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Appendix A
Agencies and Organizations

State Agencies

Virginia Department of Education
Department of Special Education and Student Services
P.O. Box 2120
101 N. 14th Street
Richmond, Virginia 23218-2120
(804) 786-8779 voice
Text Users dial 711 (VA Relay)

Virginia Department of Education
Education Specialist for Sensory Disabilities
P.O. Box 2120
101 N. 14th Street
Richmond, Virginia 23218-2120
(804) 371-4059 voice
Text Users dial 711 (VA Relay)

Virginia School for the Deaf and the Blind
Superintendent's Office
P.O. Box 2069
Staunton, Virginia 24401
(540) 332-9000 voice/TTY
(800) 522-8732 voice

Virginia Department for the Deaf and Hard of Hearing
1602 Rolling Hills Drive
Ratcliffe Building, Suite 203
Richmond, Virginia 23229-5012
(800) 522-7917 voice/TTY
(804) 662-9502 voice/TTY

Virginia Early Hearing Detection and Intervention Program
Virginia Department of Health
109 Governor Street, 9th Floor
Richmond, Virginia 23219
(866) 493-1090 voice
Text Users dial 711 (VA Relay) or 1-800-828-1120

Virginia Department for Aging and Rehabilitative Services
State Coordinator, Services to Individuals who are Deaf or Hard of Hearing
Department for Aging and Rehabilitative Services
Administrative Office
8004 Franklin Farms Drive
Richmond, Virginia 23229
(804) 552-5019 voice
(800) 464-9950 TTY
(804) 325-1316 VP

Virginia's Early Intervention System: Infant & Toddler Connection of Virginia
Department of Behavioral Health and Developmental Services
1220 Bank Street, 9th Floor
P.O. Box 1797
Richmond, Virginia 23219-1797
(804) 786-3710 voice

Other State Resources

Virginia Commonwealth University Center on Transition Innovations

Technical Assistance Center for Children who are Deaf and Hard of Hearing

Virginia Department of Education Training and Technical Assistance Centers
There are eight TTAC Regions across the Commonwealth of Virginia that serve professionals in their local areas. Find information at.

Virginia Hearing Aid Loan Bank
HALB Coordinator
Blue Ridge Care Connection for Children
2205 Fontaine Avenue, Suite 201
Charlottesville, Virginia 22903
(434) 924-8620 voice
(866) 596-9367 voice

Virginia Network of Consultants for Professionals Working with Children Who Are Deaf and Hard of Hearing
VNOC Coordinator
Technical Assistance Center for Children Who are D/HH
Partnership for People with Disabilities
Virginia Commonwealth University
700 East Franklin Street, Suite 140
Box 843020
Richmond, Virginia 23284-3020
(804) 828-1342 voice
Text Users dial 711 (VA Relay)
(804) 828-0042 fax

Virginia Project for Children and Young Adults with Deaf-Blindness
Project Director
Partnership for People with Disabilities
Virginia Commonwealth University
700 East Franklin Street
Box 843020
Richmond, Virginia 23284-3020
(877) 295-7799 voice
(804) 828-1120 TTY
(804) 828-0042 fax

Virginia School for the Deaf and the Blind Outreach Services
Director
P.O. Box 2069
Staunton, Virginia 24402
(540) 414-5249 voice

General Informational Organizations and Resources

Alexander Graham Bell Association for the Deaf and Hard of Hearing Virginia Chapter

American Society for Deaf Children

American Speech-Language-Hearing Association (ASHA)

Centers for Disease Control and Prevention-Hearing Loss in Children

Hands & Voices
Virginia Chapter

Hearing Loss Association of America

Gallaudet University, Lauret Clerc National Deaf Education Center

National Association of the Deaf

National Association of State Directors of Special Education, Inc.

National Cued Speech Association

Northern Virginia Cued Speech Association

National Deaf Center on Postsecondary Outcomes

Note: The NDC compiled a booklet, "Tipsheets and FAQs" a collection of materials from the Postsecondary Educational Program Network (pepnet 2) on various d/hh specific issues.

Appendix B
Hearing Loss: Types, Degree, Age of Onset

Types of Hearing Loss

A **conductive loss** is any dysfunction of the outer or middle ear in the presence of a normal inner ear. Conductive losses usually can be improved, even corrected, with medication, surgery and/or amplification. Conductive losses can be fluctuating or permanent. Fluctuating losses may be due to etiologies like ear infections or excessive wax. These losses may pose long-term learning risks. Students who have mild to moderate or intermittent losses may be overlooked until their academic achievement is inconsistent with their expected performance.

A **sensorineural loss** involves dysfunction of the inner ear or along the pathways of the auditory nerve in the presence of a normal outer and middle ear. This is the most common type of permanent hearing loss. Sensorineural losses, especially severe to profound losses, are not medically correctable. Depending on the severity of the sensorineural loss, hearing aids and/or cochlear implants may be recommended.

A **mixed loss** involves both conductive and sensorineural components. It can range from a mild to profound loss.

Any of the above hearing losses can be **bilateral**, affecting both ears, or unilateral, affecting only one ear. A **unilateral hearing loss** (UHL) can have conductive, sensorineural or mixed components. The degree of hearing loss in that ear can range from mild to profound. (Visit Boys Town National Research Hospital)

A **Central Nervous System** (CNS) disorder that exists in the presence of normal hearing may involve an **Auditory Processing Disorder** (sometimes referred to as Central Auditory Processing Disorder or CAPD). In spite of normal hearing, a student diagnosed with a CAPD has difficulty perceiving, discriminating and understanding sound, particularly in the presence of competing noise. Diagnosis is usually made by an audiologist who tests for auditory perception in less than optimal listening conditions. The American Speech-Language-Hearing Association (ASHA) has recognized the controversy involved in labeling auditory processing disorder as a hearing disorder or as a learning disability. Intervention for students with this challenge may involve those who are knowledgeable about hearing loss. Addressing the needs of students with auditory processing disorders may require the collaboration of a variety of professionals including audiologists, speech-language pathologists, special educators, and others.

Degree of Hearing Loss

The severity of hearing loss is determined through audiological testing. An audiogram is used to graph responses to sounds and speech during certain hearing tests and show a person's hearing levels (pitch and loudness). Visit the American Speech-Language and Hearing Association for a basic explanation of an audiogram.

An internet search of "Familiar Sounds Audiogram" will provide several illustrated audiograms that may be helpful in explaining a child's hearing loss to parents and to students themselves when age appropriate. Examples on a familiar sounds audiogram show the types and levels of several environmental sounds and usually have an area outlined on the audiogram called the "speech banana" because of its shape on the graph. The "speech banana" shows where most speech sounds occur.

Hearing loss in school-aged populations is highly variable. You cannot predetermine a student's progress based solely on the severity or type of hearing loss. Students may have identical audiograms; however, their achievement and performance may be vastly different. When attempting to identify educational needs and outcomes, all variables related to the hearing loss must be considered for each student individually.

The normal range of hearing for individuals is between -10 decibels (dB) to +15 or 25dB, depending on the source. A loss of 15dB to 25 dB is sometimes called a **minimal loss**. With this type of loss, students may miss up to 10 percent of speech if the teacher is more than three feet away and when the classroom is noisy.

A loss of 26 dB to 40 dB is considered a **mild loss**. The student is likely to understand most speech at close distances but may miss the highest frequency sounds (like /f/, /th/, /s/), which are also the quietest. In a noisy environment such as a classroom, the student may misunderstand directions, and may be thought to be "not paying attention." Students with mild hearing losses do not often realize that they are not hearing well. The learning environment may be stressful, as the student must try harder to listen.

A loss of 41 dB to 55 dB is considered a **moderate loss**. With this degree of loss, parents and teachers begin to realize that hearing may be a problem. Face-to-face, conversational speech will be understood at three to five feet, if new vocabulary is not used. Without amplification, the amount of speech missed can be 50 percent to 70 percent with a 40 dB loss. With a 50 dB loss, 80 percent to 90 percent of speech can be missed. Prognosis for normal speech and language development for a student with a moderate loss is excellent with early identification and consistent use of good hearing aids and an FM system when appropriate (Oticon, Inc.; ADA, 1998).

A loss of 56 dB to 70 dB is considered a **moderate to severe** or **moderately severe hearing loss**. Conversation is not usually understandable at six feet without hearing aids and/or visual cues. If undetected or unaided, language skills will probably be delayed, with reduced speech intelligibility and poor vocal quality. Social and emotional domains may be affected. The prognosis for speech and language development and auditory skills is considered to be good with early identification, effective intervention (Yoshinago-Itano, 2003), quality sound-processing hearing aids, and FM wireless systems used consistently.

A loss of 71 dB to 90 dB is considered a **severe hearing loss**. Without amplification, the student may hear loud voices if they are about one foot from the ear, but not necessarily understand speech. When amplified optimally, a student with a severe hearing loss should be able to identify loud sounds in the environment and detect most speech sounds (Note: detect, not necessarily

discriminate, because the more severe the sensory loss, the more distortion there is). The student will not learn information "incidentally" by casually overhearing spoken language and will probably need to be taught everything that students with typical hearing usually learn without effort.

A loss of 91 dB or more is considered a **profound hearing loss**. Without amplification, the student is aware of sound vibrations, and the student's speech is usually unintelligible. With amplification, a student may detect speech in the environment. The more profound the hearing loss is, the greater the degree of sound distortion. A student with a profound hearing loss usually needs a visual method of acquiring language and communicating.

An internet search for "hearing loss simulation" will provide examples of what hearing is like for people with various degrees of hearing loss.

Age of Onset of Hearing Loss

The age at which a child loses hearing is a significant factor affecting language development and concurrent cognitive development. Children who are born deaf and hard of hearing will benefit from early intervention programs. Effective early intervention, particularly when appropriate services begin prior to 6 months of age, has been identified as the best predictor of age-expected performance when entering kindergarten (Yoshinago-Itano, 2003).

Individuals who acquire hearing loss after birth typically are categorized in one of two groups: those who lose their hearing prelingually (generally before age 3 or 4) and those who lose their hearing postlingually, after acquiring language. The most common cause of acquired hearing loss is disease (e.g., spinal meningitis, encephalitis) but hearing loss can be caused by trauma (e.g., car accidents and head injuries) and/or toxicity (e.g., reaction to medications). Continued research into the genetic causes of hearing loss reveals a growing number of genes that might account for progressive hearing loss in children and adolescents who are not born deaf or hard of hearing but apparently have a genetic predisposition for hearing loss. These individuals present a different profile from those who are born deaf and hard of hearing or suffer a loss due to disease or accident. Etiologic information may be of importance to educators when it is associated with additional educational challenges and /or health risks. (Visit: Boys Town National Research Hospital)

Individuals who fail to protect their hearing in recreational or vocational activities that involve excessive noise are at risk for developing noise-induced hearing losses. Prevention and identification are critical. Information on noise-induced hearing loss may be found at the National Institute on Deafness and Other Communication Disorders (NIDCD).

Appendix C
Language and Communication Options

American Sign Language (ASL)

American Sign Language (ASL) is a visual-gestural language that is distinct from spoken English. It is a complete, grammatically complex language and is used extensively by the Deaf community. The shape, placement and movement of the hands, as well as facial expressions and body movements, are all important to convey information. The rationale for using ASL as the primary language is to allow the child to communicate and learn about the world. The philosophy of using ASL is that visual language gives the child who is deaf or hard of hearing the tools to develop cognitive skills and self-esteem, and enables the child to master a primary language, thereby facilitating mastery of a second language (English). The child develops language through the use of ASL within daily activities. English is taught as a second language using print.

If ASL is chosen as the child's primary language, the family and caregivers should learn to sign fluently in ASL in order for the child to develop American Sign Language as the primary language. If ASL is not the native language of the parents, intensive ASL training is needed. Training, as for any second language, should be ongoing. The Visual Communication and Sign Language Checklist for Deaf and Hard of Hearing Children (VCSL) is a standardized comprehensive checklist used to assist in tracking young children's sign language development from birth to age five.

The ASL/English Bilingual-Bimodal Approach (BI-BI) refers to the development and use of language in more than one modality. The ASL is a signed language and English is a spoken and written language. Bimodal language development will be unique to each child depending on the child's access to both ASL and spoken English (Refer to Laurent Clerc National Deaf Education Center-Info to Go).

Cued Speech/Cued Language

Cued Speech, also known as Cued Language is a visual/manual communication system that provides visual access to the phonemes of a traditionally spoken language. Cued Speech uses eight handshapes in four placements around the face in combination with the natural mouth movements of speech to make all the sounds of spoken language look different from each other. Handshapes identify consonant sounds; locations near the mouth identify vowel sounds. A handshape and a location together "cue" a syllable. In the English language, many phonemes, or individual sounds in speech, look exactly the same on the lips. Cued Speech is designed to remove the ambiguity of lipreading.

Children who use Cued Speech typically develop phonemic and phonological awareness skills through their use of residual hearing with amplification, and through speech reading facilitated by cues. With the child's focus on the mouth movements and spoken English, the child usually learns to communicate through spoken English, sometimes using cues themselves, and through

written English. Amplification or the use of a cochlear implant is often encouraged for Cued Speech users to maximize the use of hearing. Those working with children who use Cued Speech should cue during interactions when children are present so that they learn Cued Speech and develop age-appropriate speech and language.

Families and professionals who want to use Cued Speech with a child usually attend an intensive, two to three-day training to learn and practice the handshapes and placements for all of the English phonemes. Following initial study of Cued Speech, they are encouraged to use cueing daily and become proficient enough to be able to speak at a normal pace while cueing. Cued Speech can be adapted for use with spoken languages other than English. (For information on training refer to National Cued Speech Association.)

Listening and Spoken Language

The Listening and Spoken Language approaches (LSL), also referred to as Auditory/Oral and Auditory –Verbal, focus on the development of spoken language through the early and consistent use of hearing technologies (hearing aids, cochlear implants and sometimes FM systems) and engagement of parents as their child's primary language facilitator. The family is primarily responsible for a young child's language development. Therefore, parents and caregivers need to be involved with LSL trained therapists and teachers to gain the skills necessary to utilize training activities for speech, speech reading, and auditory skill development during daily routines and play activities at home. Professionals working with a family choosing LSL methodology must be sure that the family is able to care for and troubleshoot sensory devices.

Professional training in LSL methodology and principles of auditory verbal therapy and/or auditory-verbal education is recommended for speech-language therapists and teachers of the deaf and hard of hearing who serve children who are deaf and hard of hearing and primarily use listening and spoken language for communication. For further information on training, refer to the Alexander Graham Bell Academy for Listening and Spoken Language (AGBA) website.

Manually Coded English

Manually Coded English (MCE) is a term used to encompass sign systems that generally show English visually. Pidgin Signed English (PSE), Conceptually Accurate Signed English (CASE) and Signing Exact English (SEE) are all considered forms of manually coded English. Each uses ASL signs as a base and generally follows English language rules with variations depending on each system.

MCE systems may be used with Simultaneous Communication/sign supported speech. Simultaneous communication (SimCom) means talking and signing at the same time.

Total Communication

Total Communication (TC) is an educational philosophy that incorporates the use of any/all means of communicating. This may include a combined use of sign language, fingerspelling, gestures, body language, facial expression, listening and spoken language and speechreading. The goal is to optimize language development in a way that is most effective for the individual

child. In the classroom, different methods may be used at different times to provide for the student's needs at any one time. For example, English and reading classes may be taught using manually coded English, while a social studies class may be taught in ASL. The individual's use of speech and sign language may be encouraged as well as the use of all other visual cues. Therefore, the implementation of the TC philosophy for one student may be very different from that for another student.

The use of hearing technology is usually encouraged so that children may make optimal use of their usable hearing. Families may need support to access sign language resources. They may also need training to encourage their children's use of listening and spoken language.

Total Communication should not be confused with Simultaneous Communication (SimCom), also known as sign supported speech. Simultaneous communication is defined as talking and signing at the same time. SimCom may be used as part of a TC based educational setting but is not considered synonymous with Total Communication.

Suggested Resources on Communication Options:

BEGINNINGS: Guidance for Your Child's Journey (Communicating with Your Child)

Hands & Voices: Communication Considerations A-Z (Resources/Communication Considerations)

Laurent Clerc National Deaf Education Center-Info to Go (ASL/Language and Communication/Spoken Language)

Appendix D
Suggested Visual Inspection and Listening Check for Hearing Aids, Cochlear Implants and FM Systems

Personal hearing devices and FM equipment in the school setting should be checked daily to ensure they are functioning properly. School staff and the student who is deaf or hard of hearing, as appropriate, with the support of an educational audiologist, should be instructed in how to check hearing aids, cochlear implants and FM systems. As they grow, students who uses assistive listening devices should learn to become more responsible for their own hearing devices and listening needs. They should learn to recognize and report when their devices are not working properly, to replace batteries, to remind teachers to use the FM microphone and more. Forms to help log daily listening device checks are available online and in *Building Skills for Success in the Fast-Paced Classroom*, pp. 399-401 (Refer to Appendix I).

Hearing Aid

Visual Inspection:

- Check overall hearing aid for signs of damage.
- Check battery with battery tester.
- Check battery case for corrosion or rust.
- Examine tubing and earmolds for cracks.
- Examine earmold for wax blockage.
- Check tubing and ear hook for moisture.
- Check volume setting and off/on switches.
- Ensure that battery is inserted correctly with "+" symbols matching on the hearing aid and battery.
- Check for proper fitting (Is there feedback?).

Listening Check:

- Using a stethoscope/stethoset, listen for steady increase in sound without static or intermittent sound while increasing the volume wheel.
- Note any intermittency or static when turning switch on/off.

Behavioral Check:

Ling Six-Sound Test: Condition the student to respond to the speech sounds *oo*, *ah*, *ee*, *sh*, *ss*, and *mm* without visual cues, initially at a distance of 12 inches, gradually increasing to 3 feet. The student should respond initially with a conditioned response (dropping a block in a bucket or raising a hand when each sound is heard) and should progress to imitation of each sound. Presentation of the sounds should vary so that the student does not respond in anticipation of the sound. The ability to perceive the six sounds will vary depending on the degree of hearing loss and the ability of the amplification device to allow the child to perceive the sounds. These six speech sounds span the frequency range for the sounds of spoken English. Directions and

several basic forms for the Ling Six-Sound Test are available through an internet search of "Ling Six-Sound Test."

Cochlear Implant

Visual Inspection:

- Check batteries or verify that battery pack is charged properly.
- Ensure batteries are inserted in the speech processor correctly.
- Check battery use for corrosion.
- Verify program, microphone sensitivity and volume settings according to cochlear implant center directions. (Use listening earphones if available to test microphone.)
- Check cables for wear and breakage.
- Be certain all cables are attached snugly to the speech processor and headpiece.
- Check transmitting coil as directed by manufacturer.

Behavioral Check:

Ling Six-Sound Test: Condition the student to respond to the speech sounds oo, ah, ee, sh, ss, and mm without visual cues, initially within a few inches of the student's microphone and gradually increasing to several feet. The student should respond with a conditioned response and should progress to sound imitation. The student with a cochlear implant should have perception of all six sounds. Presentation of the sounds should vary so that the student does not respond in anticipation. Directions and several basic forms for the Ling Six-Sound Test are available through an internet search of "Ling Six-Sound Test."

FM System (for individual use)

Visual Inspection:

- Check battery or check that equipment is properly charged.
- Ensure that earmolds, cords, transducers and audio shoes/boots are attached snugly to the FM receivers and/or hearing aids.
- Verify that switches are set to correct positions so that the student receives a signal from the transmitter microphone.
- Check user volume control on FM receiver, if available.

Listening Check:

- Using a stethoscope/stethoset, listen to the FM receiver or the hearing aid with the transmitter turned off (environmental microphone only).
- Turn on the transmitter and listen for the signal from the microphone.
- Verify that speech can be heard clearly through the transmitter microphone in addition to speech being heard through the environmental microphone of the hearing aid or the FM receiver.

Follow recommended settings for use of transmitter microphone and environmental microphone of the hearing aid or FM receiver.

Note: A programmable hearing aid may require modification to the hearing aid program in order for the hearing aid to accept the FM signal. (The hearing aid may need to be adjusted by an audiologist.)

FM System (soundfield)

- Verify microphone batteries are charged or replaced if needed.
- Verify soundfield speaker is attached to a working power source, checking all power cord connections are secure.
- Adjust volume until sound is comfortable/audible to student.
- If static or distortion is present, contact an audiologist for assistance.

Appendix E
Assessment Description of Types of Assessments Used in Educational Settings

Criterion-referenced tests are used to determine whether a student has achieved specific skills or concepts included in a curriculum (e.g., a student who reads 80 of 100 basic sight words has reached 80 percent criterion). A re-administration of the same test following additional instruction or practice enables a comparative gauge of learning across time. Scores on criterion-referenced tests indicate what individuals can do, not how they have scored in relation to the scores of particular groups of persons, as in norm-referenced tests.

Norm-referenced tests compare an individual's performance to that of a group, called the norm group. These tests rank a given student's performance against others in the "norm group" who are matched by age, grade, or some other student or learning variable and are helpful in discriminating between high and low achievers. For the results to be meaningful, it is necessary to know the specific composition of the norm group. For students who are deaf and hard of hearing, this often means a comparison with same-aged hearing peers.

Authentic assessment refers to a form of assessment in which students are asked to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills. For example, authentic assessments may ask students the following: read real texts, write for authentic purposes about meaningful topics, and participate in authentic literacy tasks such as discussing books, keeping journals, writing letters, and revising a piece of writing. The assessment task itself and the material used for the task look as natural as possible (e.g., mailing a letter means using a real envelope and stamp). Authentic assessment values the thinking behind work and the process, as well as the finished product.

Curriculum-based measurement (CBM) is a method of monitoring student performance through frequent, direct assessment of academic skills for the purposes of evaluating the effects of their instructional programs. CBM can be used to measure basic skills in many academic domains, such as reading, mathematics, spelling and written expression. Teachers administer "probes" or brief timed samples of academic material taken from the curriculum in the classroom. These probes can be scored for fluency, accuracy and comprehension, depending upon the specific skills measured and teacher goals. CBM provides direct information about how individual students improve over time relative to their own previous performance. A CBM approach can be particularly beneficial for students who are deaf and hard of hearing and who may have very different learning styles and challenges as compared to students in typical norming samples. Using CBM over time can allow a school or school division to compare an individual student's performance and progress to the performance and progress of other students within the same school or school division. Guidelines for Instruction-Based Assessments can be found at the Virginia Department of Education's website. An additional suggested resource is Intervention Central.

Suggested Assessment Resources

The purpose for assessment (e.g., initial eligibility, reevaluation) and the individual student's needs determine which assessments are appropriate, whether a particular assessment tool requires some modification, and/or whether an assessment may be useable only in part (e.g., visual or performance subtests from a more comprehensive standardized test). Modifications and accommodations made during testing must be noted in reporting results. The following assessment resources, in six categories alphabetically (developmental, speech-language, educational, etc.) may be used with students who are deaf and hard of hearing. Included are both formal and informal tests, screening tools and checklists. This list is not exhaustive nor does the inclusion of any assessment resource indicate endorsement or recommendation by the VDOE. Information on the assessments listed below may be obtained through Internet search.

Note: Assessments used typically by educational psychologists in psychoeducational evaluations of children who are deaf and hard of hearing (cognitive, behavioral, social/emotional, etc.), and information useful for evaluators to consider for psychoeducational testing are in Appendix F: Psychological Assessment Considerations with Students Who are Deaf and Hard of Hearing.

*Entries starting with an asterisk (*) may be available through Virginia's regional TTAC lending libraries or through statewide loan from the VCU TTAC Library, or (804) 828-1414.

+Parents of children who are deaf and hard of hearing may find entries starting with a plus (+) in Appendix E and Appendix I of special interest.

Developmental Assessment

Assessment, Evaluation and Programming System for Infants and Children (AEPS), Second Edition: The AEPS assesses children (birth-6 years) across six major developmental areas – fine motor, gross motor, cognitive, adaptive, social-communication and social. It encompasses pre-academic content areas such as preliteracy, numeracy and pre-writing.

The Battelle Developmental Inventory, Second Edition (BDI-2): an assessment of key developmental skills in children (birth-8 years).

***+Birth to 5: Watch Me Thrive!* A Compendium of Screening Measures for Young Children** (2014): The developmental screening tools in this U.S. Department of Health and Human Services compendium include:

- Ages and Stages Questionnaire, Third Edition
- Ages and Stages Questionnaire-Social-Emotional
- Brigance Screens
- Developmental assessment of Young Children, Second Edition
- Early Screening Profiles
- FirstSTEP Screening Test for Evaluation
- Preschoolers Learning Accomplishment Profile- Diagnostic Screens
- Parents' Evaluation of Developmental Status, and
- Parents' Evaluation of Developmental Status: Developmental Milestones

Boehm Test of Basic Concepts, Third Edition (Boehm-3): a test of basic relational concepts of comparison, direction, position, quantity, and time.

Bracken Basic Concept Scale, Third Edition (BBCS-3): an assessment of basic concept acquisition and receptive language skills of children (2 years, 6 months-8 years). It includes twelve conceptual categories: colors, letters, numbers, counting, sizes, comparisons, shapes, direction/position, self/social awareness, texture/materials, quantity, and time/sequence.

***+Bracken School Readiness Assessment, Third Edition** (BSRA-3): a tool to quickly screen concept knowledge of young children (3 years-6 years, 11 months).

+CDC Developmental Milestones: Checklists developed through the Centers for Disease Control (CDC) "Learn the Signs. Act Early" program to track child development (2 months-5 years) in the following areas: Social-Emotional, Language/Communication, Cognitive, and Movement/Physical Development. (Refer to Appendix I for additional information.)

Receptive and Expressive Language Assessments

Carolina Picture Vocabulary Test (CPVT): a test for children who are deaf and hard of hearing (2 years, 6 months-16 years) intended to measure receptive sign vocabulary for individuals who primarily use sign language.

Clinical Evaluation of Language Fundamentals-Preschool-2 (CELF-Preschool-2): an evaluation of expressive and receptive language ability standardized for children (3 years, 0 months-6 years, 11 months).

Cottage Acquisition Scales For Listening, Language, and Speech (CASLLS): a progress-monitoring instrument including a developmental checklist for assessment and planning for diagnostic therapy. The language section includes steps from pre-verbal through to complex sentences including pragmatic development.

Dual-Language Learning for Children with Hearing Loss: *Assessment, Intervention and Program Development* by Michael Douglas (MED-EL, 2002). A resource to address the assessment and intervention issues for children who are deaf and hard of hearing and culturally and linguistically diverse (CLD). It also provides a guideline for developing a program for bilingual children. (Refer to Appendix I for additional information.)

The Expressive Vocabulary Test, Second Edition (EVT-2): an assessment often used in conjunction with the PPVT to compare receptive and expressive vocabulary.

Kendall Communicative Proficiency Levels (P-Levels): an assessment providing information on the pragmatic aspects of communication/language of children who are deaf and hard of hearing. The P-Levels may be used with children who use spoken or sign language. It is available in "The Tool Kit" from *Starting With Assessment: A Developmental Approach to Children's Literacy* by Martha French (1999), distributed by the Clerc Center, Gallaudet University, Washington, DC.

+Language Milestones – American Sign Language and English: A checklist designed to be used by professionals to monitor American Sign Language and/or English development in children who are deaf and hard of hearing (birth-8 years old). Charts are organized by age and include Receptive Language skills, Expressive Language skills, and Social Communication skills. Each chart includes general language competencies plus specific skills found in each language.

The MacArthur-Bates Communicative Development Inventories (CDI): a questionnaire/checklist that asks parents to identify various words that their child either says or signs.

New Reynell Developmental Language Scales (NRDLS): an assessment of receptive and expressive language designed for children (15 months-7 years).

Oral and Written Language Scales, Second Edition (OWLS-II): an assessment of higher order thinking, semantics, syntax, vocabulary, and pragmatics.

Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4): a test measuring a child's understanding of individual vocabulary; often used in conjunction with the EVT-2.

The Pragmatic Language Observation Scale (PLOS): is a 30 item, norm-referenced teachers' rating scale that can be used to assess students' daily classroom spoken language behaviors.

The Pragmatic Language Skills Inventory (PLSI): is an easy to use, norm-referenced rating scale designed to assess children's pragmatic language abilities in three subscales: personal interaction skills; social interaction skills; and classroom interaction skills.

Preschool Language Scales, Fifth Edition (PLS-5): a standardized test of auditory comprehension and expressive communication for infants and toddlers, which includes an articulation screener and a language sample checklist.

Preschool S.I.F.T.E.R. (Screening Instrument for Targeting Education Risk in Preschool Children): a rating scale designed to help identify children (age 3 years-Kindergarten) who are at risk for educational delay and who may need further evaluation.

Receptive-Expressive Emergent Language Test, Third Edition (REEL-3): a scale designed for infants and toddlers up to 3 years of age. Results are reported in terms of Expressive Language Age, Receptive Language Age, and Combined Language Age.

Receptive and Expressive One-Word Picture Vocabulary Tests, Fourth Edition (ROWPVT-4, EOWPVT-4) (EOWPVT): an assessment of English speaking vocabulary by asking the child to name objects, actions and concepts pictured in illustrations.

The Rossetti Infant-Toddler Language Scale: A Measure of Communication and Interaction: a scale assessing preverbal and verbal areas of communication and interaction including the topics of interaction-attachment, pragmatics, gesture, play, language comprehension, and language expression.

Screening Instrument for Targeting Educational Risk (S.I.F.T.E.R): scales rating a child in comparison with other children in the classroom in five areas, including academics, attention, communication, classroom participation, and school behavior.

SKI-HI Language Development Scale: a scale, developmentally ordered and containing a list of communication and language skills in varying intervals for different ages. Each age interval is represented by observable receptive and expressive language skills in order to obtain a profile of a child's language ability.

Systematic Analysis of Language Transcripts (SALT): an instrument analyzing the spoken and signed language produced in a 30-minute play session. SALT is designed to provide a portrait of the child's language as well as the type of language the caregiver uses while communicating with the child. Analyses are done every six months to measure language growth.

Teacher Assessment of Grammatical Structures (TAGS): instrument consisting of rating a child's understanding of grammatical structures in sentences of at least four words in length that contain a subject and a verb.

Teacher Assessment of Spoken Language (TASL): a teacher rating form designed to rate the sentence structure of children who are deaf and hard of hearing. The TASL evaluates the development of spoken language from first words through the use of complex sentences.

The Test of Narrative Language, Second Edition (TNL-2): a norm-referenced test that measures children's narrative language abilities (ability to understand and tell stories). Narration is an important aspect of spoken language, not usually measured by oral-language tests, that provides a critical foundation for literacy. Then TNL-2 enables clinicians to assess important aspects of narrative language without having to transcribe children's stories.

Verbal Behavior Milestones Assessment and Placement Program (VB-MAPP): a criterion-referenced assessment tool, curriculum guide and skill tracking system designed for children with autism and other individuals who demonstrate language delays.

Auditory/Listening Skills Assessments

***Auditory Perception Test for the Hearing Impaired, 3rd Ed** (APT/HI): a test to determine the discrete auditory perception abilities of children (3 years and older) through profiling 8 major skill areas.

Common Objects Token Test (COT): a complex closed set sentence test designed to describe the auditory speech perception and auditory memory skills of children who are deaf and hard of hearing.

Developmental Approach to Successful Listening II (DASL): a sequential program with an ongoing rating that focuses on the individual making optimal use of their residual hearing. A hierarchy of listening skills is organized into Sound Awareness, Phonetic Listening and Auditory Comprehension.

Early Speech Perception Test (ESP): a test of speech perception for profoundly deaf children as young as 3 years of age.

Functional Auditory Performance Indicators: An Integrated Approach to Auditory Development (FAPI): an assessment of the functional auditory skills of children with hearing loss.

Functional Listening Evaluation: An evaluation tool to determine how listening abilities are affected by noise, distance, and visual input in an individual's natural listening environment. The FLE may be used as a validation tool to demonstrate the benefits of hearing assistance technology.

The Lexical Neighborhood Test and the Multisyllabic Lexical Neighborhood Test (LNT/MLNT): open-set tests of word recognition based on the lexical characteristics of word frequency and neighborhood density, including words found in the typical vocabularies of children age three to five. Results may be used as a benchmark for children with hearing loss.

The Listening Inventory for Education-Revised: an Efficacy Tool (LIFE-R): an instrument designed to determine amplification benefit using input from the student and the teacher.

Meaningful Auditory Integration Scale/Infant-Toddler: Meaningful Auditory Integration Scale (MAIS/IT-MAIS): scales developed for children who have profound hearing loss and designed to obtain information on use of amplification/cochlear implant and auditory behaviors regarding environmental and speech sounds.

***Speech Perception Instructional Curriculum and Evaluation** (SPICE): a program used to evaluate and develop auditory skills in children as young as 3 years old who have hearing loss.

Test of Auditory Comprehension of Language, Fourth Edition (TACL-4): a measurement of auditory comprehension skills including word classes and relations, grammatical morphemes, and elaborated sentences.

Speech and Articulation Skills Assessments

The Arizona Articulation Proficiency Scale, Third Edition: a tool designed to identify misarticulations and total articulatory proficiency.

The Goldman Fristoe: Test of Articulation 2 (GFTA-2): an assessment of a child's articulation ability that samples spontaneous and imitative speech production.

Ling Phonetic-Phonologic Speech Evaluation: evaluation forms described in chapter nine of *Speech and the Hearing Impaired Child*, 2nd ed., by Daniel Ling and used to assess the segmental and nonsegmental aspects of speech at both the phonetic and phonologic levels.

Photo Articulation Test-Third Edition (PAT-3): an assessment of articulation errors.

Sounds & Speech Level (CASLLS): A companion instrument within the Cottage Acquisition Scales For Listening, Language, and Speech (CASLLS) that monitors the development of sound awareness, phonetic listening discriminations, and phonetic and phonologic speech and provides a developmental checklist for assessment and diagnostic planning for therapy.

Sign Language Assessment

ASL Development Observation Record: a form developed at the California School for the Deaf, Freemont, to document the ASL language development of young children who are deaf from the time they entered the program to kindergarten.

Checklist of Emerging ASL Skills: a tool providing a series of indicators to determine whether a child who is deaf has components of ASL in his or her communication system. Available in Easterbrooks, S. and Baker, S. *Language Learning In Children Who Are Deaf And Hard Of Hearing: Multiple Pathways* (2002).

+Language Milestones – American Sign Language and English: Refer to description in ***Receptive and Expressive Language Assessments.***

+Visual Communication and Sign Language Checklist (VCSL): a standardized comprehensive checklist used to assist in tracking young children's sign language development (birth-5 years).

Educational Assessments

Kaufman Test of Educational Achievement, Second Edition (KTEA-II): an assessment of reading, mathematics, written language and oral language.

Qualitative Reading Inventory-4 (QRI-4): an informal assessment instrument that emphasizes authentic assessment of children's reading abilities from emergent to advanced readers.

Starting With Assessment: A Developmental Approach to Children's Literacy (1999): Checklists included in "The Tool Kit" from *Starting With Assessment* include: Early Reading Checklist, Reading Checklist and Kendall Writing Levels.

Test of Early Reading Ability, Third Edition (TERA-3): an instrument assessing mastery of early developing reading skills using three subtests: Alphabet (knowledge of the alphabet and its uses), Conventions (knowledge of the conventions of print), and Meaning (measuring the construction of meaning from print).

The Test of Preschool Early Literacy (TOPEL): a theoretically sound instrument designed to identify preschoolers who are at risk for literacy problems. Results from the TOPEL subtests are useful for documenting a child's print, oral vocabulary, and phonological awareness ability.

Wechsler Individual Achievement Test, Third Edition (WIAT III): a standardized measure of academic achievement with a variety of subtests used to measure a student's receptive and expressive language, reading writing, and mathematics skills.

Woodcock-Johnson IV-Tests of Achievement: a battery that includes the WJ III Tests of Achievement and the WJ III Tests of Cognitive Abilities to measure general intellectual ability, specific cognitive abilities, scholastic aptitude, oral language and achievement.

Other Resources

The Assessment of Functional Living Skills (AFLS): Rating scales (2 years-up) that provide a systematic way to evaluate, track and teach functional, adaptive and self-help skills for individuals with autism or development delays.

Essential for Living-Professional Practitioner's Handbook: a functional skills assessment and skill-tracking instrument and curriculum for students with moderate to severe disabilities. It is especially useful for learners with limited language skills, minimal daily living skills and/or severe problem behavior.

Placement and Readiness Checklists for Students Who are Deaf and Hard of Hearing (PARC): a set of readiness and placement checklists designed to assist IEP Teams in making decisions about programming and placement for students who are deaf and hard of hearing. The student-focused checklists are titled: General Education Inclusion Readiness, Interpreted/Transliterated Education Readiness, and Oral+Manual Instruction Access. The Placement Checklist helps to assess the accessibility and appropriateness of a student's general education setting and is useful for monitoring the Preschool/K, Elementary and Secondary general education environment.

Transition Assessment and Goal Generator (TAGG): The TAGG is an on-line transition assessment for secondary-ages youth with disabilities, their families and professionals. TAGG items derive from research identified student behaviors associated with post high school employment and education. It provides a norm-based graphic profile, present level of performance statement, lists of strengths and needs, and suggested IEP annual transition goals. A video version of the TAGG in ASL is available.

Appendix F
Psychological Assessment Considerations with Students Who are Deaf and Hard of Hearing

This appendix provides information on assessment considerations for students who are deaf and hard of hearing and assessment resources that have been used in psychological assessment with students who are deaf and hard of hearing. The purpose for assessment and the individual student's needs determine which assessments are appropriate, whether a particular assessment tool requires some modification, and/or whether an assessment may be useable only in part (e.g., visual or performance subtests from a more comprehensive standardized test). Assessment of students who are deaf and hard of hearing requires consideration of unique factors. Note the *Standards for Educational and Psychological Testing* (2014) developed jointly by the American Educational Research Association (AERA), American Psychological Association (APA), National Council on Measurement in Education (NCME) and the National Association of School Psychologists (NASP) 2012 Position Statement for *Serving Students Who Are Deaf or Hard of Hearing*.

Modifications and accommodations made during testing (e.g., use of an educational interpreter, use/nonuse of assistive listening devices) must be noted in reporting results. This list of assessments is not exhaustive nor does the inclusion of any assessment resource indicate endorsement or recommendation by the VDOE. Information on the assessments listed may be obtained through Internet search.

Consultation regarding psychological assessment of children who are deaf and hard of hearing is available from the Virginia Network of Consultants (VNOC).

Deaf Norms

While it might be helpful to have information about how "typical" students who are deaf and hard of hearing perform on standardized assessment, sometimes referred to as "deaf norms" challenges immediately come up when attempting to define the typical student who is deaf and hard of hearing. The population of students who are deaf and hard of hearing is diverse with respect to communication mode, family communication at home, degree of hearing loss, benefit from and use of technology, early intervention services, educational experiences and access to community resources (Shaver et al., 2013). Most educators would welcome deaf norms if all the diversity factors could be considered, although deaf norms do not guarantee the test is valid or measuring what it is intended to measure (Braden, 2017; Reesman et al., 2014). Overall, deaf norms may offer some information when available, but there are many ways to look at the appropriateness of using a specific test with students who are deaf and hard of hearing. Test measures should not be ruled out or ruled in solely based on the availability of deaf norms.

Psychological Assessment

Assessment of Nonverbal Intelligence

Tests of nonverbal cognitive abilities can be helpful indicators of global intellectual development for students who are deaf and hard of hearing (Akamatsu, Mayer, & Hardy-Braz, 2008; Braden, 1994; Miller et al., 2015; Morere et al., 2012; Reesman et al., 2014). The hope with nonverbal assessment is that students can easily understand the tasks, have an equal chance at solving each question when compared with students with whom the test was developed, and demonstrate their true underlying intellectual ability. A variety of factors can impact student performance and it is best practice to administer two different intellectual assessments and compare that with information from the real world to obtain a valid measurement (Braden, 2017). Examiners may wish to utilize measures of fluid reasoning – the capacity to think logically and solve problems in new situations independent of acquired knowledge – as fluid reasoning aligns closely with general intelligence (Braden, 2008). Specific nonverbal or fluid reasoning assessment tools often recommended include (Braden, 2017; Miller et al., 2015; Morere et al., 2012; Reesman et al., 2014):

- Comprehensive Test of Nonverbal Intelligence, Second Edition (CTONI-2)
- Differential Abilities Scale-II (DAS-II)
- Leiter International Performance Scale, Third Edition (Leiter-3)
- Kaufman Assessment Battery for Children- Second Edition Nonverbal Scale (KABC-II)
- Kaufman Brief Intelligence Test, Second Edition (K-BIT2) Matrices subtest
- Stanford-Binet Intelligence Scales, Fifth Edition (SB5)
- Test of Nonverbal Intelligence, Fourth Edition (TONI-4)
- Universal Nonverbal Intelligence Test (UNIT)
- Wechsler Nonverbal Scale of Ability (WNV)

[Note: The visual spatial and fluid reasoning tasks from the Wechsler Preschool Primary Scale of Intelligence, Fourth Edition (WPPSI-IV) and Wechsler Scale of Intelligence for Children, Fifth Edition (WISC-V) have directions that are longer and more complex than the directions for other available tests. This can impact the measurement of intelligence in students who are deaf and hard of hearing (Miller et al., 2015).]

Assessment of Nonverbal Abilities: Cautions

Psychologists are encouraged to take extra care that the assessment tools selected are reliable and valid measures of cognitive ability.

All examiners using nonverbal measures should be aware of two threats to validity. In addition, examiners should not rely solely on measures of fluid reasoning. More information may be needed to determine the student's eligibility under the classification of specific learning disability, best options for placement, and classroom accommodations. Additionally, correlations between nonverbal test scores and reading academic scores are not as strong for students who are deaf and hard of hearing as they are for students in the normative sample.

Assessment of Nonverbal Abilities: How to select the right nonverbal test

- **Consider how communication issues might impact administration**: Some nonverbal assessments were designed for administration using demonstration, gesture, sign language, or pantomime, which may help reduce the negative impact that communication delays can have on understanding task demands. If students are confused by directions

(delivered in any modality), they often perform poorly even on nonverbal intelligence tests. The confusion about the directions may go unnoticed or misattributed to lower cognitive development, especially when the psychologist is not using the same mode of communication as the student.

- **Consider test format** (Interactive manipulatives versus visually scan and point): Research has shown that people who are deaf and hard of hearing perform lower on nonperformance intellectual assessments than the normative sample. For many people who are deaf or hard of hearing, tests with interactive manipulatives may provide a more accurate estimate of underlying intelligence. Within the group of nonverbal intelligence tests, there are tests with manipulatives requiring more interactive performance (Leiter-3, UNIT) and tests that require visual scanning and pointing for a response modality (CTONI-2, TONI-4).
- **Unidimensional versus multidimensional**: Unidimensional nonverbal tests measure one narrow aspect of construct, such as the TONI-4, and are best used in screening or as part of a larger battery of tests. Multidimensional nonverbal tests include a wider array of cognitive abilities measured with various subtests, such as the Leiter-3, UNIT, and WNS. Multidimensional nonverbal tests are helpful when seeking information about eligibility, placement, intervention, and educational recommendations (McCallum et al., 2001; Miller et al., 2015).

Assessment of Verbal and Language-Based Abilities

Verbal comprehension and reasoning typically refers to analyzing and solving language based problems by drawing upon word knowledge, background experiences, learned information, and social situations. Performance on "verbal" scales of traditional intellectual tests is influenced heavily by a student's access to the English language, language-based life experiences, access to instruction, and the quality of the educational curriculum. For these reasons, verbal intelligence scores are not typically considered valid representations of true intelligence for students who are deaf and hard of hearing (Maller, 2003). Despite these validity concerns, many psychologists experienced in the field of deafness recognize the importance of assessing linguistic reasoning as a robust correlate of academic success and as part of a comprehensive assessment of cognitive processing strengths and weaknesses (Akamatsu et al., 2008; Reesman et al., 2014). Note: C. T. Akamatsu, C. Mayer & S. Hardy-Braz's (2008) chapter, *Why Considerations of Verbal Aptitude are Important in Educating Deaf and Hard of Hearing Students*, for a detailed review of this topic.

Some information about differences in how a student processes language-based information versus visual information can be ascertained with domains on the CTONI-2 or UNIT, which are both nonverbal in administration format. They each have tasks with a language-based component (pictorial or symbolic) and tasks with a visual component (non-symbolic or geometric) which might help IEP Teams screen for learning differences. In general, only psychologists with extensive experience and training should attempt to evaluate language-based reasoning skills for students who are deaf and hard of hearing with standardized verbal intelligence tests (Akamatsu et al., 2008; Miller et al., 2015; Reesman et al., 2014).

Assessment of Verbal Abilities: Cautions

Research has identified several factors that likely impact reliable and valid measurement of verbal abilities with students who are deaf and hard of hearing. First, administering "verbal" test questions in sign language can be quite tricky and threatens test reliability when examiners deviate from standard procedures. Many experts cite the importance of developing more standard sign language administration for the newest test versions (Reesman et al., 2014).

Second, there has been some research showing specific test items from verbal scales work differently for people who are deaf and hard of hearing, possibly leading to different stop rules during test administration. Additional concerns for construct validity and differential item functioning remain for many of the newer updated assessments that have not yet been researched (Maller, 2003).

Third, when a student who is deaf or hard of hearing scores lower on a verbal intelligence test, it can reflect a lack of experience and opportunity rather than a lack of ability. Students who are deaf and hard of hearing without fluent access to a language rich environment from an early age may also have fewer opportunities for developing communication skills, incidental learning, and background knowledge. Children typically have both social communication skills and academic or abstract communication skills in their preferred communication mode before higher-order verbal reasoning abilities emerge.

With the interpretation of verbal intelligence scores bringing so much complexity, it is helpful to return to the reason for the referral. Information about English problem solving and word knowledge can be collected with approaches other than using verbal intelligence tests, such as speech-language assessment, academic achievement assessment, and progress monitoring in classes. When considering the presence of a learning disability, the team should have information about historical access to instruction, receptive and expressive communication, language-based reasoning, communication at home, and academic achievement as separate domains measured with more than one data point (Akamatsu et al., 2008; Braden, 2017; Miller et al., 2015).

Sometimes it is helpful to take a school based neuropsychological approach or a Cattell-Horn-Carroll (CHC) Cross-Battery Assessment approach (Akamatsu et al., 2008; Flanagan & McGrew, 1997; Miller et al., 2015). As a more authentic approach to assessment for learning disabilities, the IEP Team is encouraged to explore assessment with a response to intervention process by putting specific interventions and supports into place and collecting information about the student's performance over time (Braden, 2017).

Other Cognitive Processing Areas

Many professionals who specialize in assessment for students who are deaf and hard of hearing recommend measuring several domains of neurocognitive processing such as speed, retrieval fluency, visual motor integration, attention, and executive functioning (Morere, 2008; Miller et al., 2015). Given that most social, educational and environmental information is acquired through the visual modality for many students who are deaf and hard of hearing, it is important to determine that this visual information is being perceived and interpreted accurately (Hauser et

al., 2008; Morere, Hall, & Allen, 2012). Assessments of visual perception, visual motor integration, and motor planning can be important if there are concerns for attention or communication skills. In particular, students who are deaf and hard of hearing with cognitive or learning disabilities may demonstrate deficits in visual perception and visuomotor skills that need to be addressed or accommodated within the learning environment (Morere, 2005).

Interpretation of executive functioning test scores should be made in context with information about a student's communication skills, access to instruction, group advantages found among people who are deaf and hard of hearing, and reasons for the initial referral.

Some assessments of cognitive processing and executive functioning to consider include (Miller et al., 2015; Morere, 2008; Whitaker & Thomas-Presswood, 2017):

- Beery Buktenica Developmental Test of Visual Motor Integration, Sixth Edition (VMI-6), and subtests of Beery Developmental Test of Motor Coordination and Beery Developmental Test of Visual Perception
- Behavior Rating Inventory of Executive Function, Second Edition (BRIEF-2)
- Brief Visuospatial Memory Test – Revised
- Children's Category Test
- Children's Color Trails
- Children's Memory Scale
- Comprehensive Executive Function Inventory (CEFI)
- Corsi blocks task
- Delis-Kaplan Executive Function System (D-KEFS)
- Developmental Test of Neuropsychological Function, Second Edition (NEPSY-II)
- Leiter-3: Nonverbal Memory and Processing Speed
- Knox Cubes Test
- Rey Complex Figure Test
- Trail Making Test
- Wechsler Intelligence Scale of Children, Fifth Edition Integrated (WISC-V Int): Processing Speed Index, Visual Working Memory Index, Naming Speed Index
- Wechsler Memory Scale, Fourth Edition (WMS-IV)
- Wide Range Assessment of Memory and Learning, Second Edition (WRAML-2)
- Wide Range Assessment of Visual and Motor Abilities
- Wisconsin Card Sorting Test

Social-Emotional Development

Students who experience linguistic deprivation are at risk for secondary emotional stressors, such as increased exposure to abuse and neglect, emotional distress such as depression and anxiety, and/or behavior outbursts related to frustration about breakdowns in communication. Child abuse and neglect is experienced by children with disabilities at a rate that is reportedly three times that experienced by their nondisabled peers (Sullivan & Knutson, 2000), with increased incidence suspected and reported within the deaf community (Sullivan, Vernon & Scanlan, 1987).

Parents and children may develop emotional distress such as depression and anxiety if there are issues of adjusting to the initial diagnosis, lack of social support, or stress in family relationships.

Given the various social and emotional issues that affect the development of children who have hearing loss, social/emotional evaluations are often helpful. Evaluations of social and emotional development can be completed within a psychological evaluation, within a social history, and/or with input from an individual or family counselor. Again, the validity of many objective personality measures or standardized assessments used with children who are deaf and hard of hearing may be impacted by their fluency with English. It is prudent to supplement standardized data with direct observations of behavior, input from caregivers and educational personnel, and interviews. The reading level for specific self-report measures should be checked prior to administration. Some types of nonverbal personality assessment techniques include drawing techniques, object placement and play techniques, and self-rating or self-report techniques such as rating pictures as they relate to oneself (Wasserman, 2003). Some assessments to consider include (Miller et al., 2015):

- Achenbach System of Empirically Based Assessment/Child Behavior Checklist
- Behavior Assessment System for Children, Third Edition (BASC-3): Parent and Teacher Rating Scales; Self-Report of Personality; Structured Developmental History; Structured Observation System)
- Children's Depression Inventory, Second Edition (CDI-2)
- Functional Behavior Assessment
- Minnesota Social Skills Checklist for Students who are Deaf/Hard of Hearing
- Piers Harris Self-Concept Scale, Second Edition (Piers Harris 2)
- Reynolds Adolescent Depression Scale, Second Edition (RADS-2)
- Reynolds Children's Manifest Anxiety Scale, Second Edition (RCMAS-2)

Language mediated social emotional projective tests:

- Roberts Apperception Test for Children, Second Edition (Roberts-2)
- Tell-Me-A-Story

Adaptive Living or Daily Living Skills

Assessment of adaptive behavior or daily living skills may be required when clarifying cognitive functioning, such as when determining eligibility for special education services for children with intellectual disabilities, or when planning for the transition from high school to the community. Evaluation areas may include self-help skills, independent functioning, daily living skills, communication, and social skills. Some assessments used to measure adaptive skills include (Miller et al., 2015):

- Adaptive Behavior Assessment System, Third Edition (ABAS-3)
- Assessment of Functional Living Skills (AFLS)
- Checklist of Adaptive Living Skills
- Inventory for Client and Agency Planning (ICAP)
- Scales of Independent Behavior - Revised (SIB-R)
- Vineland Adaptive Behavior Scales, Third Edition (Vineland-3)

Adaptive Living Skills: Precautions

Examiners should be aware that most adaptive assessments include many questions that relate to communication, and at times it is difficult to determine whether a low score represents lack of opportunity due to hearing loss (e.g., answering the phone by saying "hello") or a true skill deficit (e.g., reading street signs). Qualitative descriptions of specific skills, performance-based observations and close inspection of specific items often help to differentiate between the direct effects of hearing loss and true adaptive skill deficits.

Socio-Cultural Assessment

The Multidimensional Assessment Model for Bilingual Individuals (MAMBI) can guide what information needs to be collected for a comprehensive assessment for children from diverse backgrounds (Ochoa & Ortiz, 2005). The focus is on balancing information related to the grade level, approach to assessment, historical and current educational programming, and student's language proficiency in all languages. In order to gather relevant information during a social history, information would be included about:

- Linguistic History
- Type of educational experience
- Grade level and literacy data
- Level of acculturation

In addition to the sources listed in the References, the following sources are cited in this Appendix:

Braden, J. (1994). *Deafness, Deprivation and IQ.* New York, NY: Plenum Press.

Braden, J.P. (2008). Fluid intelligence. In N. Salkind (Ed.), *Encyclopedia of educational psychology*, Thousand Oaks, CA: Sage.

Hauser, P., Lukomski, J., & Hillman, T. (2008). Development of deaf and hard-of-hearing students' executive function. *Deaf Cognition: Foundations and Outcomes* (pp. 286-308). New York, NY: Oxford University Press.

McCallum, R. S., Bracken, B. A., & Wasserman, J. D. (2001). *Essentials of psychological assessment series. Essentials of nonverbal assessment.* Hoboken, NJ: John Wiley.

Morere, D. (2005). Primary Learning Disorders and Nonverbal Learning Disabilities: Additional Challenges to Language Development in Deaf Children. Invited presentation at the Virginia School for the Deaf and the Blind, Staunton, Virginia on June 1, 2005.

Morere, D. (2008). The fingerspelling test. Washington, DC: Science of Learning Institute Visual Language and Visual Learning.

Morere, D. A., Goodman, E., Hanumantha, S., & Allen, T. (2012). Measures of cognitive functioning. In D. Morere and T. Allen (Eds.), *Assessing literacy in deaf individuals: Neurocognitive measurement and predictors,* DOI 10.1007/978-1-4614-5269-0_3.

Morere, D. A., Hall, W. C., & Allen, T. (2012). Measures of visuospatial ability. In D. Morere and T. Allen (Eds.), *Assessing literacy in deaf individuals: Neurocognitive measurement and predictors,* DOI 10.1007/978-1-4614-5269-0_3.

Shaver, D. M., Marschark, M., Newman, L., & Marder, C. (2013). Who is where? Characteristics of deaf and hard-of-hearing students in regular and special schools. *Journal of Deaf Studies and Deaf Education,* 203-219. doi:10.1093/deafed/ent056

Sullivan, P. M., & Knutson, J. F. (2000). Maltreatment and disabilities: a population-based epidemiological study. *Child Abuse & Neglect,* 24 (10), 1257-1273.

Sullivan, P. M., Vernon, M., & Scanlan, J. M. (1987). Sexual abuse of deaf youth. *American Annals of the Deaf, 132*, 256-262.

Whitaker, R., & Thomas-Presswood, P. (2017). School psychological evaluation reports for deaf and hard of hearing children: Best practices. *Journal of Social Work in Disability and Rehabilitation, 16(3-4)*, 276-297. doi:10.1080/1536710X.2017.1372242

Appendix G
Virginia Communication Plan for a Student Who is Deaf or Hard of Hearing

The National Association of State Directors of Special Education (NASDSE) reiterated in *Optimizing Outcomes for Students who are Deaf or Hard of Hearing: Educational Service Guidelines, 3rd ed.*:

> *When developing IEP goals, IEP Teams must consider several "special factors" 934 C.F.R.* § 300.324(a)(2))... states have used the special factors provision of the law as a basis for a "communication plan" that is developed by the IEP Team and becomes part of the student's IEP…. Having such a plan can be an effective way for IEP Teams to successfully ensure that IDEA's special factors mandates are met as well as justify opportunities for peer-to-peer-activities. (NASDSE, 2018, p. 30.)

Following the 2006 NASDSE recommendation, the "Virginia Communication Plan for a Student Who is Deaf or Hard of Hearing" was developed. The Virginia Communication Plan was originally adapted and used with permission from the Iowa Department of Education (2006). It has been updated to provide a useful tool for IEP Teams to address:

> IDEA 2004, § (14 9d) (3) (B) (iv) Development, review, and revision of IEP.
> (2) Consideration of special factors. The IEP Team must –
> (iv) Consider the communication needs of the child, and in the case of a child who is deaf or hard of hearing, consider the child's language and communication needs, opportunities for direct communications with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child's language and communication mode.

The Virginia Communication Plan is recommended and available on VDOE's website as a word document and may be used as is or adapted by school divisions for special education planning.

Virginia Communication Plan for a Student Who is Deaf or Hard of Hearing

Student's Name:
Date:

IDEA 2004, § (14 9d) (3) (B) (iv) Development, review, and revision of IEP.
(2) Consideration of special factors. The IEP Team must – (iv) Consider the communication needs of the child, and in the case of a child who is deaf or hard of hearing, consider the child's language and communication needs, opportunities for direct communications with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child's language and communication mode;

The IEP Team has considered each item below:

I. Language and Communication Modalities

Describe the student's preferred language and communication modality(ies). Use the key to note the student's skill level in each blank cell in the table on the next page. Note all that apply.

KEY:
E = Emerging skills
L = Limited skills (*Uses in certain settings with support*)
D = Developing skills (*Capable but not yet Proficient*)
P = Proficient skills (*Uses in many settings*)The student uses one or more of the following languages/communication methods:

(Note all that apply)

Student's Languages/ Communication Methods:	**Academic Language** (classroom) Receptive	**Academic Language** (classroom) Expressive	**Social Language** (non-classroom language at school) Receptive	**Social Language** (non-classroom language at school) Expressive	**Home Language** Receptive	**Home Language** Expressive
American Sign Language (ASL)						
English Sign System Type:						
Simultaneous Communication (sign language and spoken English)						
Sign Supported Speech						
Cued Speech						
Listening and Spoken Language						
Written English						
Gestures/Home Signs						
Tactile sign						
Augmentative Assistive Communication Type:						
Other Language: (e.g., French/ Spanish Sign Language)						

1. Summarize the student's general language skill level based on formal and informal assessment results:

2. Is the language and/or mode of communication the student uses effective with his/her **family/caregivers?** Yes ☐ No ☐
   If not, what is needed to increase the proficiency of the student-family communication?

3. Is the language and/or mode of communication the student uses effective with his/her **peers?**
   Yes ☐ No ☐

If not, what is needed to increase the proficiency of peer-to-peer communication?

II. Amplification/Accommodations

(Supports needed to participate and make progress in the general education curriculum)

1. Check and rate all that apply in the chart below if the student uses one or more of the following devices:

Devices	Sometimes at School	Consistently at School	Sometimes at Home	Consistently at Home
Personally owned hearing aid(s)	☐	☐	☐	☐
Hearing implant(s): BAHA, cochlear	☐	☐	☐	☐
Personally owned assistive listening device:	☐	☐	☐	☐
School-provided hearing aid(s)	☐	☐	☐	☐
School-provided FM system	☐	☐	☐	☐
School-provided sound-field system	☐	☐	☐	☐
Augmentative communication device	☐	☐	☐	☐

2. Amplification device(s) used in school are monitored through:
   Independent monitoring/reporting by the student: Yes ☐ No ☐

   Hearing technology checks done: Yes ☐ No ☐
   Frequency (e.g., daily/weekly/monthly) by (staff title) or (back-up staff title)

3. Student's level of independence with hearing technology:
   Highly Dependent ☐
   Some Physical Assistance ☐
   Some Prompting ☐
   Independent ☐

4. Assistive Devices/Services used by the student:
   Captioned media:☐ C-Print: ☐ Interpreting/Transliteration (type:)
   CART: ☐ Notetaker: ☐ Visual alerts/alarms: ☐ Other:

5. There is an alternate plan in place to maintain communication with the student if any of the following takes place:
   Interpreter is absent: If Yes, Describe
   Amplification device is not working: If Yes, Describe
   FM system is not working: If Yes, Describe
   Assistive device/service is not available: If Yes, Describe

III. Opportunities for Direct Communication*

*(*face-to-face, without use of additional source, e.g., interpreter, captioner)*

1. Instruction is given directly by a teacher proficient in the language(s) & communication mode(s) identified in Part 1 in the following settings (describe):

2. Opportunities for communication with professional staff and other school personnel proficient in the language(s) & communication mode(s) identified in Part 1 are available in the following settings (describe):

3. The student can directly communicate with peers in the language(s) & communication mode(s) identified in Part 1 in the following settings (describe):

4. The student has opportunities to meet/interact with deaf and hard of hearing role models in the following settings (describe):

5. The following supports/services are needed to increase communication proficiency of school staff and personnel:

IV. Academic Level

1. Does the student have the language and communication skills necessary to acquire:
   - Grade-level academic skills and concepts included in the general education curriculum?
     Yes ☐ No ☐
   - Daily living/functional living skills? Yes ☐ No ☐

2. What supports not yet included on this form are necessary for the student to increase proficiency in language and communication skills in order to acquire or continue grade-level academic or daily living skills?

V. Full Range of Needs

- The IEP Team has considered the full range of needs: Yes ☐

- Comments (optional):

This document was prepared by:

Name:

Signature:

Title:

Date:

Student:

Appendix H
Educational Interpreters

Recruitment Strategies, Training Programs and Resources

To recruit qualified educational interpreters, school divisions can:

- advertise by posting information to school division websites, social media sites and in local newspapers and those of larger nearby cities;
- post the position with Teach Virginia, a statewide job bank. also accessible through the VDOE website; and
- contact interpreter training programs in Virginia and surrounding states and ask them to announce job openings or post them where their students can access them.

The following contact information is for American Sign Language (ASL) and interpreter training programs to consider:

Virginia

J. Sargeant Reynolds Community College
American Sign Language and Interpreter Education
1651 E Parham Road
Richmond, Virginia 23227
Telephone: (804) 523-5604

Northern Virginia Community College
American Sign Language and Interpreter Education
8333 Little River Turnpike
Annandale, Virginia 22003
Telephone: (703) 323-3192

Tidewater Community College
American Sign Language-English Interpretation
1428 Cedar Road
Chesapeake, Virginia 23322
Telephone: (757) 214-6157

Liberty University
American Sign Language and Interpreting Program
1971 University Boulevard
Lynchburg, Virginia 24515
Telephone: (434) 582-2064

Out-of-State

Gallaudet University
Department of Interpretation and Translation
800 Florida Avenue NE
Washington, DC 20002
Telephone: (202) 651-5149

Community College of Baltimore County, Catonsville
Interpreter Preparation Program
800 South Rolling Road
Catonsville, Maryland 21228
Telephone: (443) 840-4975

Gardner-Webb University
American Sign Language and Interpreter Training Program
110 South Main Street
Boiling Springs, North Carolina 28017
Telephone: (704) 406-4418

University of North Carolina at Greensboro
Interpreter Preparation Program
316 Ferguson Building
P.O. Box 26170
Greensboro, North Carolina 27402-6170
Telephone: (336) 334-5843

Eastern Kentucky University
Director of ASL and Interpreter Education
245 Wallace Building
Richmond, Kentucky 40475
Telephone: (859) 622-4966

Additional Resources on Educational Interpreting include:

- Registry of Interpreters for the Deaf
- Virginia Registry of Interpreters for the Deaf
- Testing Evaluation & Certification Unit, Inc
- Language Matters
- Educational Interpreter Performance Assessment (Search: Educational Interpreter)
- Virginia Department for the Deaf and Hard of Hearing
- National Association of State Directors of Special Education

Appendix I
Instructional Resources

The following is a list of various instructional resources that may be useful when working with students who are deaf or hard of hearing. This list is arranged in ten categories alphabetically. It is not exhaustive nor does the inclusion of any resource indicate endorsement or recommendation by the VDOE.

Note: Links to websites and resources have been provided when possible and are updated regularly. If a link within this appendix does not work, consider using a search engine and key in a title/term to access a website/resource. (Example: Search: "Info to Go" instead of using the hyperlink.)

Entries starting with an asterisk (*) may be available through Virginia's regional TTAC lending libraries or through statewide loan from the VCU TTAC Library, or by calling (804) 828-1414.

Parents of children who are deaf and hard of hearing may find entries starting with a plus (+) in Appendix I and Appendix E of special interest.

Behavior

the Behavior Code: A Practical Guide to Understanding and Teaching the Most Challenging Students by Jessica Minahan/Nancy Rappaport (Harvard Education Press, 2012): This book describes a systematic approach for deciphering causes and patterns of difficult behaviors in children and how to match them with proven strategies for getting students back on track to learn. It includes user-friendly worksheets and resources to reduce behaviors that interfere with learning. While designed for K-6 grade levels, teachers of older children will benefit from its strategies also. (Available through sources such as amazon.com.)

the Behavior Code Companion: Strategies, Tools, and Interventions for Supporting Students with Anxiety-Related or Oppositional Behaviors by Jessica Minahan (Harvard Education Press, 2014): This is an essential guide for teachers seeking additional help to support students with mental health needs. It contains a step-by-step guide, especially for grades K-6, to create successful intervention plans. Teachers of older students will find many useful strategies as well (available through sources such as amazon.com).

+Observe, Understand and Respond: The O.U.R. Children's Safety Project: Children with disabilities, including children who are deaf and hard of hearing may be at a higher risk for bullying, abuse and neglect. Because they are not always able to communicate easily or understand the nuances of conversations, they may be at a higher risk of being victims. Information on these topics is available from the Hands & Voices O.U.R. Project.

Developmental

+CDC Developmental Milestones: Checklists developed through the Centers for Disease

Control (CDC) "Learn the Signs. Act Early" program to track child development (2 months-5 years) in the following areas: Social-Emotional, Language/Communication, Cognitive, and Movement/Physical Development.

+Integrated Scales of Development (ISD): A table that outlines typical stages of development in the areas of listening, receptive and expressive language, speech, cognition and social communication (birth–48 months). Cochlear America adapted this table from several sources; it is available with a tracking form to monitor development.

+Milestone Tracker App: A mobile app designed for parents to track a child's milestones from age 2 months to 5 years with the Centers for Disease Control (CDC) checklists.

+Milestones of Child Development: A Guide to Young Children's Learning and Development from Birth to Kindergarten (Virginia's Early Childhood Development Alignment Project): A comprehensive resource containing a set of child development indicators and strategies for adults designed to support the growth and development of young children from birth to kindergarten entry.

General

***Building Skills for Success in the Fast-Paced Classroom: Optimizing Achievement for Students with Hearing Loss**: A comprehensive resource by Karen Anderson and Kathleen Arnoldi (Butte Publications, 2011) with evaluation materials, checklists and more to address communication competence, self-concept development and other skills needed to optimize student achievement.

+Center for Accessible Technology in Sign (CATS): A comprehensive website through the Georgia Institute of Technology with sign language learning resources (SMARTSignDictionary) as well as a variety of sign supported literature and media for all ages.

+The Communication Corner: Cochlear Corporation's comprehensive site of age-appropriate resources designed for individuals using implant technology beginning with a short guidance assessment to determine the starting level (young children & families, school age, tweens & teens and more). Professionals can access free one-hour seminars on a range of topics related to (re)habilitation and education needs of children, teens and adults who use cochlear implants or bone anchored hearing aids (BAHA).

+The Described and Captioned Media Program: The DCMP is funded by the U.S. Department of Education and provides a free-loan media program (video, DVD, direct streaming). It is a valuable resource for educational materials to supplement and enhance academics. It is also a good sign language resource. Teachers who work with a student with a hearing loss and parents are eligible for a free account from DCMP. Many materials may be streamed directly to computer; others are sent via US mail and will have a postage paid sticker to return them. There is NO COST to the borrower.

***Dual-Language Learning for Children with Hearing Loss:** *Assessment, Intervention and Program Development* by Michael Douglas (MED-EL, 2002): A resource to address the assessment and intervention issues for children who are deaf and hard of hearing who are culturally and linguistically diverse (CLD). It also provides a guideline for developing a program for bilingual children.

+Info to Go: The Laurent Clerc Center site is designed to share information and provide resources with professionals and families on a variety of topics related to children and youth (birth-21) who are deaf and hard of hearing. From the Clerc Info to Go page follow links to a wealth of resources on ASL, Deaf Culture, Early Intervention, Interpreting, Language and Communication, Transition and more.

Learning A-Z: A comprehensive online resource of evidence based PreK-6 grade learning resources to support instruction in reading, writing, vocabulary, science and test taking skills. Raz-Plus and Raz Kids on this site have a variety of age appropriate stories with vocabulary especially needed for English language learners.

Odyssey: A magazine on deaf education topics published annually by the Clerc Center and free of charge to people on the Clerc Center mailing list. Odyssey is available both in print and online.

Outreach Services, Virginia School for the Deaf and the Blind: An extensive list of useful resources for professionals working with students who are deaf and hard of hearing and their families on a variety of topics is posted on the Outreach Services site.

+Students with Cochlear Implants – Guidelines for Educational Program Planning: A resource designed to facilitate discussion among professionals and families for monitoring educational programming and supports for communication access for students with cochlear implants. Available at the Clerc Center Info to Go site.

+Supporting Success for Children with Hearing Loss: a comprehensive website with resources to address listening, social communication and learning issues for children who are deaf and hard of hearing. Several assessment tools including the Functional Listening Evaluation and the LIFE-R, (Refer to Appendix E, Auditory/Listening Skills Assessments) are available on this website.

Language (Spoken and Visual)

ASL Content Standards: Kindergarten – Grade 12: The K-12 ASL Content Standards consist of five Anchor Standards that describe the general expectations that students learning ASL as a first language should meet across grades K-12. The subsequent grade-level standards delineate the specific knowledge and skills that students should demonstrate as they progress. Information on lessons aligned with the ASL Content Standards is available at American Sign Language Curriculum, Instruction, Assessment.

***Cottage Acquisition Scales For Listening, Language, and Speech** (CASLLS): a progress-

monitoring instrument including a developmental checklist for assessment and planning for diagnostic therapy. The language section includes steps from pre-verbal through to complex sentences including pragmatic development. ***CASLLS Companion**: is a companion to the Simple Sentence and Complex Sentence CASLLS that provides explanations and samples of grammatical forms as well as activity ideas and resources for eliciting language structures.

The English Center: An online unit of Gallaudet University's Tutorial and Instructional Programs designed for secondary level students with basic information and strategies on Writing (Process and Type), Grammar and Vocabulary, Reading ESL), Citations and References.

***Language Adventure Curriculum** (LAC): a three-year comprehensive, spiraling curriculum of thematic units designed for use primarily with students who are deaf and hard of hearing who are developing listening and spoken language skills in preschool, PreK and kindergarten levels. The LAC may be used effectively in early elementary grades as well as adapted for use with children who use visual language communication systems (e.g., ASL, Cued Speech). Each unit of study has more than 300 pages of classroom activities, vocabulary and a listing of related children's literature.

Language & Literacy Development in Children Who are Deaf, by Barbara Schirmer, Allyn & Bacon, 2000. (Available through sources such as amazon.com.)

Language Learning in Children who are Deaf and Hard of Hearing: Multiple Pathways, by Susan Easterbrooks, Sharon Baker, Allyn & Bacon, 2002. (Available through sources such as amazon.com.)

***+Learn to Talk Around the Clock**: An early listening and spoken language learning resource of activities for professionals working with families of infants and young children who are deaf and hard of hearing.

+The Listening Room: A free resource provided by Advanced Bionics on their Hearing Journey website, with age-appropriate activities and ideas to support the practice of listening and language skills with infants and toddlers, older children, teens and more.

Phonetics: The Sounds of American English: an online resource for showing articulation of speech sounds.

+Rehabilitation Lesson Kits: MED-EL created a series of themed lesson kits to support listening and spoken language learning sessions with children who are d/hh. Activities may be easily adapted for children who use visual/sign language. Themed lesson kits are available for free download by subscribing to MED-EL's Professional Blog.

+Speech Sounds: Cochlear America developed two free downloadable PDF resources for parents and professionals to supplement learning of vowels and consonants in a developmental age-appropriate way for young children who are deaf and hard of hearing and focusing on listening and spoken language learning. Search: *Speech Sounds: Vowels-Cochlear* and *Speech Sounds Consonants HOPE*.

***Speech Perception Instructional Curriculum and Evaluation** (SPICE): a program used to evaluate and develop auditory skills in children as young as 3 years old who have hearing loss.

***Speechreading: A Way to Improve Understanding*, 2nd ed.** rev. by H. Kaplan, S. Bally and C. Garretson. Gallaudet University Press, 1985: a resource providing exercises for speechreading.

Literacy (Reading/Writing)

The Apple Tree Curriculum for Developing Written Language, 2nd ed. is a language system that provides a sequence of procedures for the construction and development of basic English sentence structures.

Failure Free Reading: A language development and reading comprehension program designed for lowest literacy readers.

Fairview Learning Program: A reading program designed for students who are deaf or hard of hearing that includes Adapted Dolch Word Lists and Bridge Lists (English phrases which require more than a single-word to single-sign translation for understanding).

+Fifteen Principles for Reading to Deaf Children: Principles developed at the Clerc Center sharing effective practices for how to read aloud in American Sign Language to deaf and hard of hearing children, based on research on how Deaf parents read to their Deaf children. The resource is provided in print and ASL.

Fingerspelling Our Way to Reading: This is an evidence-based, supplementary literacy program for students who are deaf and hard of hearing (K-2nd grade). FOWR is designed to enhance phonological awareness of fingerspelled words to help increase expressive and receptive fingerspelling skills and identification of printed words as well as provide reading opportunities using fingerspelled words in sentences and stories.

Foundations for Literacy: An Intervention for Young Children Who Are Deaf and Hard of Hearing: Foundations is a curriculum designed primarily for children ages 3-6 years who are d/hh to teach fundamental reading skills. It builds a foundation in alphabetic knowledge and phonological awareness while providing a variety of opportunities for language growth.

Orton-Gillingham Program: a multi-sensory approach to reading instruction designed for students with dyslexia.

Planning for Literacy Instruction: A Sharing Ideas series paper by Martha French, 1999.

+Read Aloud 15 Minutes: A national campaign to promote the importance of reading with young children. The site has a variety of free downloads (English and Spanish) to educate and encourage families about the importance of reading.

Reading Milestones: Each level of the program includes 10 readers with 6 stories per book. Features include syntax and vocabulary control (number of new words per story, multiple meanings, word structure). Vocabulary sources include Dolch List and a revised core vocabulary, grades 1-8.

+Reading Rockets: A national multimedia project that offers research-based reading strategies, lessons and activities designed for young readers. Resources on this site are designed to assist educators and parents help struggling readers build fluency, vocabulary and comprehension skills. "Rocket Blasts" is an email newsletter service to stay current on the latest news on reading, literacy, early childhood and elementary education issues.

ReadWriteThink: A comprehensive resource, sponsored by the International Literacy Association and National Council of Teachers of English, to provide educators with access to the highest quality practices and resources in reading and language arts instruction.

See-the-Sound Visual Phonics: a visual-gestural tool designed to represent phonemes visually. As a literacy strategy, Visual Phonics may help students in learning the sound-letter connections important in early reading
Professional development in STS Visual Phonics is available through VNOC Services, (804) 828-1342.

***SKI-HI Curriculum, Volume 2: Early Communication, Language and Literacy**: This comprehensive two-volume curriculum is designed for early intervention providers to work effectively with families of infants and young children who are deaf and hard of hearing. The information in volume two, Literacy provides a framework, strategies and activities to encourage early literacy skill development

****Starting with Assessment: A Developmental Approach to Deaf Children's Literacy*** by Martha M. French (Gallaudet, 1999): A two-volume text to assess learning needs, describe skills and determine instructional goals for students who are deaf and hard of hearing. Volume 2 includes the Kendall Conversational Proficiency Levels assessment. (Refer to Appendix E.)

Touch Phonics: A multi-sensory program designed for at risk, English language learners and students with special needs.

Wilson Reading Program: A reading and writing program designed for upper elementary and high school students who have difficulty with written language in the areas of decoding and spelling.

Multiple Disabilities/Deaf Plus

Essential for Living – Professional Practitioner's Handbook: a functional skills curriculum, assessment and skill-tracking instrument for students with moderate to severe disabilities. It is especially useful for learners with limited language skills, minimal daily living skills and/or severe problem behavior.

+Literacy for Children with Combined Vision and Hearing Loss: Online resource developed by the National Consortium on Deaf-Blindness (NCLB) designed to present instructional strategies for children with dual sensory challenges.

***+Understanding and Interacting with Infants and Toddler and Preschool Aged Children with Deaf-Blindness**: A manual with information and activities specifically for persons working with infants and young children who are deafblind or who have both visual impairment and hearing loss. It includes user-friendly topics, illustrations and activity ideas in a variety of areas.

Verbal Behavior Milestones Assessment and Placement Program (VB-MAPP): a criterion-referenced assessment tool, curriculum guide and skill tracking system designed for children with autism and other individuals who demonstrate language delays.

School Subjects (Math/Science/Social Studies)

DeafTEC STEM Sign Video Dictionary: The Technological Education Center for Deaf and Hard of Hearing Students produced a STEM ASL online dictionary to provide standard signs for terms used in information technology, lab sciences and math.

National Library of Virtual Manipulatives (NLVM): A National Science Foundation supported project. The NLVM is a digital library of Java applets and activities for K-12 Mathematics.

NTID Science Signs Lexicon: An online sign glossary developed at the National Technical Institute of the Deaf of signs for use in mathematics and science classes including common math terms, biology, chemistry, earth science and more.

NTID Social Science Signs Lexicon: An online sign glossary developed at the National Technical Institute of the Deaf of signs for use in social studies classes including geography, U.S and world history, government and more.

Newsela Instructional Content Platform: An online site that provides differentiated, high-interest texts organized by content area for grades 2 through high school.

The SOL Enhanced Scope and Sequence Plus (ESS +): The History/Social Science SOL Enhanced Scope and Sequence PLUS (ESS+) (based on the 2008 History SOL) lessons, developed by the VDOE, provide specific options for differentiating each lesson for students with disabilities and/or limited English proficiency. Access the History ESS PLUS lessons at (or go to the VA Assessments tab > Standards of Learning (SOL) > Search: History & Social Science SOL Enhanced Scope and Sequence PLUS Lessons).

Instructional Strategies in English, Mathematics, History/Social Sciences are available for special populations, including Students who are Deaf and Hard of Hearing (go to the VA Assessments tab > Standards of Learning (SOL) > Instructional Strategies).

The Strategic Instruction Model (SIM): a project developed at the University of Kansas Center for Research on Learning (CRL) to promote effective teaching of critical content and increase the performance of at-risk students through research-based interventions in grades 4-12. The SIM's content enhancement routines and learning strategies curriculum were designed by the CRL to meet the needs of academically diverse students effectively in both general education and special education classrooms. Information and trainings are available through regional TTACs.

Self-Determination

The Expanded Core Curriculum for Students Who are Deaf or Hard of Hearing (ECC-DHH): The Iowa Department of Education's guidance document is recognized by NASDSE as a resource for IFSP and IEP Team members designed to help address the areas of learning unique to students who are deaf and hard of hearing.

Rule the School: Games and activities, designed for students who are deaf and hard of hearing, to promote self-advocacy skills.

***Steps to Success**: A Scope and Sequence of Skills for Students who are Deaf/Hard of Hearing: Perception, Processing, Self Knowledge and Advocacy Development* by Lynn Price (2016): A resource manual for use with students who are deaf and hard of hearing in grades K through 12. StS is designed to develop skills that will enable a student to become an effective listener, a successful communicator, a proficient reader, and a knowledgeable consumer of goods and services related to hearing needs. StS may be used alone or in conjunction with a language curriculum, content vocabulary instruction, and an auditory skills development program.

Transition Age

***C.O.A.C.H. Self Advocacy & Transition Skills for Secondary Students who are Deaf or Hard of Hearing** by Lynne Price (2014): A resource for use with transition age students who are deaf and hard of hearing to address self-advocacy and problem-solving skills.

DeafVerse – Choose Your Future: This interactive game supports the development of self-advocacy skills as students navigate common situations in a variety of settings including community, school, and the workplace. The student can test out responses to situations, challenges, and conflicts that are part of the deaf experience and frequently encountered throughout real life. Students practice how to make their own decisions, see the impact of their decisions, and learn more about their legal rights.

I Want To Work: A two-volume resource (workbook and partner guide) designed to assist people with intellectual and other disabilities to address information useful in obtaining employment including identifying likes, dislikes and interests, considering supports needed to be successful at work and preparing a resume. Available by calling the Partnership for People with Disabilities: (804) 828-1335.

Map-It: What Comes Next: An interactive online training tool designed for transition-aged students who are deaf and hard of hearing to identify their skills, personal interests and consider what they might do after high school. Video vignettes signed in ASL with spoken English and written transcriptions, self-assessments, and a series of interactive questions are provided. These guide students as they identify their goals and develop strategies to achieve them. All interactive materials are saved and compiled in an electronic portfolio.

***Summer Jobs and Beyond**: A Guide for Teens with Hearing Loss And the Adults Who Work with Them by Claire Blatchford (Clark Mainstream Services, 2009): A workbook to address topics related to job and internship finding, including resume building, preparing for an interview and more for teens who are deaf and hard of hearing.

Appendix J
Differentiated Instructional Strategies to Use with Students Who Are Deaf and Hard of Hearing

- Use multimedia approaches for visual representation of lesson content. Power point presentations and interactive white boards are preferable to traditional chalkboards; as the teacher does not need to turn his/her back to the students. This is especially important for students who rely on speechreading, sign language, Cued Speech, and/or listening for receptive communication.

- Offer systematic vocabulary instruction. The most effective approaches emphasize numerous techniques, such as use of semantic maps, semantic feature analyses, word maps, and classroom discussion of words. Overexposure through repetition and varied formats is often essential.

- When using visuals, allow time for students to view the board, projected image, or objects, then watch the explanation/instruction given by the teacher or through the educational interpreter, and only then, allow students to offer responses. A hearing person can view visuals and listen at the same time. Students who are deaf and hard of hearing, especially those who rely on visual communication through sign language, Cued Speech or speechreading, must process information sequentially rather than simultaneously. Students who use cochlear implant technology require processing time as well.

- Pre-teach vocabulary for upcoming science, mathematics and social science lessons in context. Collaboration with the speech-language pathologist and/or resource teacher can be beneficial. Remember, students who are deaf and hard of hearing typically do not learn words incidentally; explicit instruction is necessary.

- Base instructional strategies on the individual's receptive and expressive communication strengths.

- Provide an enriched language environment that promotes a wide range of meaningful experiences with opportunities for receptive, expressive (through the air) and written language.

- Provide a peer or professional in the learning environment with whom the student can interact and who can effectively provide, not only the vocabulary to label objects, but also a language model for expressing concepts and ideas, using the student's primary mode of communication.

- Regardless of the communication modality used, make print an important part of everyday routines, and emphasize the value of reading and writing in varied, meaningful activities throughout the day.

- Partner with families. Maintain ongoing communication between the home and teachers so that vocabulary and language concepts are reflected and reinforced in as many different situations as possible. Make families aware of the limitless opportunities in the home for language enrichment during daily routines and determine whether the family members are able to communicate effectively in the student's chosen mode.

- Prior to reading a selection, encourage class discussions so that students may benefit from one another's connections to the text, building students' background knowledge of concepts and vocabulary.

- For students who sign, ensure that all involved are consistent in the signs being used. Use conceptually based signs and avoid inventing signs for new vocabulary. Be sure that students learn the conceptually accurate signs for phrases and multiple meaning words and use them while reading. While fingerspelling a word may indicate that a student may not know the meaning, be sure to encourage and use recognized lexicalized signs (recognized signs made from blending letters from the manual/fingerspelled alphabet to form a fingerspelled sign. Example: the ASL sign for "bus" is made by fingerspelling B-U-S).

- Guide students to formulate questions first; then answer their questions through reading. This may help to improve their word recognition skills, comprehension, analytical skills, and ability to draw inferences.

- Reinforce phonemic awareness through visuals (demonstrations, pictures, and software programs) that show placement of articulators.

  Discuss in an IEP Team meeting how phonemes will be introduced in a consistent manner. Even students with the most profound hearing losses may benefit from phonemic awareness enhanced with visual-gestural strategies such as See-the-Sound Visual Phonics or Cued Speech.

- Incorporate speaking and/or signing, listening/receiving communication visually, reading and writing activities consistently. Literacy involves all four components.

- Teach students who use sign language to deliver classroom presentations in sign. The student and the educational interpreter should practice together prior to a presentation to ensure that the interpreter is familiar with the material and is rendering an accurate representation of the student's work.

- Remember that language precedes literacy. Students will not understand language expressed in print until they understand language presented through listening and spoken language, sign language, and/or Cued Speech, etc.

- Remember that no instructional strategy, however differentiated, will be effective if the student does not comprehend a speaker's communication attempts.

- Provide an enriched learning environment that promotes a wide range of meaningful experiences with opportunities for reading about and discussion of historic events, past and present.

- Use more than one mode of presentation for abstract concepts. These may include manipulatives (cubes, puppets, action figures), verbal (word problems matching equations, role playing, debates), pictorial (time lines), and symbolic modes (graphic organizers). Encourage students to translate between sign language and English and to make connections between all modes presented. Pictures, drawing sets, and visualizing or pantomiming of actions may be used to move from the concrete to more abstract representations.

- Relate events in history with students' personal experiences through a dialogic process.

- Emphasize the role of individuals who are deaf and hard of hearing in various events in history.

- Encourage students to process information at a deeper level through questioning.

- Provide an enriched learning environment that promotes a wide range of meaningful experiences with opportunities for exploration and problem solving.

- Note that word problems may be especially difficult for some students who are deaf and hard of hearing because of the literacy level needed to comprehend the problem. Having the educational interpreter sign the word problem may be an appropriate accommodation for some students.

- Introduce math word problems as informal stories with math facts through dramatization, or use, interactive boards or overhead projection with manipulatives; then translate the action into a math sentence. Students can also use pictures, drawing sets, and visualizing or pantomiming the action in a problem to move from the concrete to more abstract representations of a word problem.

Appendix K
Expanded Core Curriculum Resources

The following is a list of resources that educators and parents may find of interest for students who are deaf or hard of hearing on topics considered part of the expanded core curriculum. It is not exhaustive nor does the inclusion of any resource indicate endorsement or recommendation by the VDOE.

Note: Links to websites and resources have been provided when possible and are updated regularly. If a link within this appendix does not work, consider using a search engine and key in a title/term to access a website/resource.

ASL Clear: An online American Sign Language STEM Concept Learning Resource that offers a collection of STEM (Science, Technology, Engineering and Math) units in ASL.

ASL Corpus Database: A database of over 400 links to various online videos on over 50 topics related to ASL. Available at the California School for the Deaf-Fremont. (Click on Academics/ASL Corpus.)

Center for Accessible Technology in Sign (CATS): A comprehensive website through the Georgia Institute of Technology with sign language learning resources (SMARTSignDictionary), literature (CATS Library) which includes Deaf History, Deaf Culture, Deaf Sports and more for all ages and interests.

D-PAN.TV (The Sign Language Channel): An internet site providing daily news and information in ASL with voice-over interpretation and closed captioning. Users are required to set up an account. DPAN.TV may be watched on any internet-connected device.

Deaf Linx: Information and resources on Deafness including a section for students and families under "Kid's Stuff."

Deaf Planet: an interactive website site designed for students at grade levels 4-7 which uses ASL as the primary means of communication.

DeafVerse – Choose Your Future: This interactive game supports the development of self-advocacy skills as students navigate common situations in a variety of settings including community, school, and the workplace. The student can test out responses to situations, challenges, and conflicts that are part of the deaf experience and frequently encountered throughout real life. Students practice how to make their own decisions, see the impact of their decisions, and learn more about their legal rights.

The Described and Captioned Media Program: The DCMP is funded by the U.S. Department of Education and provides a free-loan media program (DVD and direct streaming). It is a valuable resource for educational materials to supplement and enhance academics and sign language learning.

Gallaudet University Library: deaf-related resources.

Hearing Our Way: a quarterly magazine for children and teens with hearing loss designed to engage and inspire young people through relatable content, role models, and strategies focused on listening, language and self-advocacy skills.

Info To Go: Gallaudet University's Clerc Center website is organized by topics to provide information and resources on the educational, linguistic, social and emotional development of children who are deaf and hard of hearing birth to 21 as well as resources on transitioning to adulthood. "Deaf Culture" is a specific topic at Info To Go with several resources addressing Deaf Community and Culture.

Raising Deaf Kids-A world of information about children with hearing loss: Comprehensive resource provided by the Deafness and Family Communication Center (DFCC) at the Children's Hospital of Philadelphia with information on a variety of topics (birth-21).

Sign School: A free online self-paced American Sign Language learning site.

StartASL.com: A free online site for learning American Sign Language

Through Deaf Eyes: A PBS documentary that explores 200 years of Deaf life in America.

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